WPCCS 2017 Report

Gregory Watson

June 2017

Abstract
This report will detail the WPCCS 2017 event. It is intended to act as a handover document for the student(s) running WPCCS 2018, and also as the post-event report required as part of the RSSP funding award.

1 Introduction
The Warwick Postgraduate Colloquium in Computer Science (WPCCS) is an annual event held by the Department of Computer Science. The event brings postgraduate researchers together from the Department of Computer Science, the Centre for Scientific Computing and the CDT in Urban Science and Progress to present their research. The event is typically held for the entire day on the final Friday of Term 3, which this year fell on Friday 30th June 2017. All Postgraduate Research Students registered in the Department of Computer Science were required to attend for the entire day, and to either give a presentation or present a poster. All first year Postgraduate Research Students are required to give a presentation, and is a requirement for upgrading from the MPhil programme to the PhD programme.

Organisation of the event is typically managed by the Chair of the Department of Computer Science Postgraduate SSLC. However, this year, the Chair of the CDT in Urban Science of Progress (a CDT under the Department of Computer Science) SSLC was the Chair of the event. The Chair of the Computer Science Postgraduate SSLC was instead a member of the Organising Committee.

2 Summary of the event
WPCCS 2017 was a huge success. Various changes were introduced this year, which will be listed and discussed below.

1. Conference Guide - A 52 page Conference Guide was designed by Organising Committee member Liam Steadman, and printed by Warwick Print.

2. Digital Signage - A video was created to run on a loop on the ground floor foyer screens in the Oculus. This was designed by Organising Committee member Richard Kirk.
3. Guest Speakers - Three guest speakers were invited to present at the event - Dr. Sara Kalvala, Vic Smith and Alex Haak.

4. The Oculus - For the first time, the event was held in the Oculus.

5. Lanyards - All students, staff and guest speakers were given lanyards to help everyone identify and network with their colleagues.

Reading the WPCCS 2016 Report, which was written by last year’s Chair, Matthew Bradbury, attendance was identified as a key issue that needed working on. Previously, a lot of students turned up for their presentation, and then left afterwards. This meant that very few students were at the event at any one time. As the purpose of WPCCS is to give students an experience similar to a real conference, this was not desirable. In addition, an extremely small number of staff turned up to WPCCS 2016.

Both Matthew Bradbury and I had a meeting with the Department of Computer Science’s Head of Postgraduate Research, Florin Ciucu, to discuss this. It was decided to make attendance mandatory for the entire day for all Postgraduate Research Students. In addition, it was decided amongst the Organising Committee that we would get staff involved in the day by asking a small number of them to provide a five minute introduction to one of the tracks. This would hopefully also prompt other staff to attend on the day.

One thing that must be noted to anyone considering organising WPCCS in the future is the immense time required to organise the event. The organiser(s) must strike a balancing act between trying to make the event as good as can be, whilst maintaining the commitment to their research. However, the purpose of WPCCS is to give students an experience as similar to a conference as possible, and thus I believe that extra event features such as the Conference Guide and lanyards are very important. I feel that my ability to manage a project has grown following organisation of this event.

3 Organisation

The following section will detail the organisation of the event. The organisation began in January 2017, with rooms OC0.02, OC1.06, OC1.07, OC1.08 and OC1.09 being booked far in advance. Rough cost estimations for the food, Conference Guide and the posters were obtained by looking at menus and price lists.

3.1 Organising Committee

An email was distributed, inviting any student from the Department of Computer Science, the Centre for Scientific Computing and the CDT in Urban Science and Progress to join the Organising Committee. The following students were members of the committee, and hence acted as Session Chairs:
• Gregory Watson (Chair, Multimedia Processing and Computer Vision, CDT in Urban Science and Progress)

• Matthew Bradbury (Fault Tolerant and Reliable Systems, Department of Computer Science)

• Richard Kirk (High Performance Systems Lab, Department of Computer Science)

• David Purser (CDT in Urban Science and Progress)

• Liam Steadman (CDT in Urban Science and Progress)

• James Van Hinsbergh (CDT in Urban Science and Progress)

Their roles were to (i) review presentation and poster submissions from students, and to write reviews based on these submissions, and (ii) to chair presentation sessions and ensure that all people keep to time.

3.2 Key Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday Week 1 Term 2</td>
<td>Begin WPCCS 2017 Preparation</td>
</tr>
<tr>
<td>Monday Week 3 Term 2</td>
<td>Solicit Organising Committee</td>
</tr>
<tr>
<td>Monday Week 2 Term 3</td>
<td>WPCCS 2017 Submission Opens</td>
</tr>
<tr>
<td>Friday Week 6 Term 3</td>
<td>Abstract Submission Deadline</td>
</tr>
<tr>
<td>Wednesday Week 8 Term 3</td>
<td>Author Notification</td>
</tr>
<tr>
<td>Wednesday Week 8 Term 3</td>
<td>Schedule Publication</td>
</tr>
<tr>
<td>Wednesday Week 9 Term 3</td>
<td>Resubmission Deadline</td>
</tr>
<tr>
<td>Wednesday Week 9 Term 3</td>
<td>Time Slot Change Deadline</td>
</tr>
<tr>
<td>Monday Week 10 Term 3</td>
<td>Send Conference Guide to the printer</td>
</tr>
<tr>
<td>Tuesday Week 10 Term 3</td>
<td>Send off Digital Signage to Big Screen</td>
</tr>
<tr>
<td>Wednesday Week 10 Term 3</td>
<td>Print and cut lanyards</td>
</tr>
<tr>
<td><strong>Friday Week 10 Term 3</strong></td>
<td><strong>WPCCS 2017 Event</strong></td>
</tr>
<tr>
<td>Wednesday Week 2 Summer Break</td>
<td>Deadline for feedback</td>
</tr>
</tbody>
</table>

3.3 Academics

Academics were kept informed of WPCCS throughout the year, and were invited to attend on the day. All academics were given a flyer early on in Term 2, which contained a handwritten message inviting them to the event. For each of the nine tracks, an academic gave a short, 5 minute introduction to the track. This generally contained an overview of the research area and a summary of what the University of Warwick Department of Computer Science’s research students are researching in this area. Prior to the event, a shortlist of academics whose research aligned well with the tracks was produced, and expression of interest was gathered from these academics. From those who expressed interest, a list of academics was written up. The academics who gave these introductions, as well as the track which they introduced, were as follows:
1. Dr. Abhir Bhalerao (Computer Vision)
2. Dr. Steve Matthews (Education)
3. Prof. Rob Procter (Urban Science)
4. Prof. Artur Czumaj (Foundations)
5. Dr. Arshad Jhumka (Networking)
6. Prof. Graham Cormode (Urban Analytics)
7. Dr. James Davis (High Performance Computing)
8. Dr. Phillip Taylor (Artificial Intelligence & Transport)
9. Dr. Theo Damoulas (Machine Learning)

3.4 Guest Speakers

We decided to invite guest speakers to WPCCS 2017. Guest speakers would be timetabled such that no other presentation occurred at the same time, and therefore guest speakers presented in-between tracks. The names and titles of the guest speakers and their talks were as follows:

1. Dr. Sara Kalvala - Microbial communities: Understanding and exploiting the origins of cooperative behaviour
2. Vic Smith - Programming with Dependent Types
3. Alex Haak - Innovation or Industry

Each guest speaker was given a thirty minute time slot. Some guest speakers expressed that they would have wanted longer, but unfortunately this was not possible due to timetable constraints.

3.5 Inviting other students

Whilst the event was mandatory for all Postgraduate Research Students in the Department of Computer Science, the event was open to any student and staff member from across the university. Flyers advertising WPCCS 2017 were placed in the Department of Computer Science, and a web presence was also created. In addition, we invited all Department of Computer Science 4th year undergraduate students who had participated in the Undergraduate Research Support Scheme (URSS) during Summer 2016. However, only one none Postgraduate Research Student attended the event, and this was not one of the students who had participated in the URSS. It is believed that as the event is held on Friday Week 10 of Term 3, undergraduate students may not be around or may not want to attend an academic conference at this time.
Investigation as part of WPCCS 2016 has found that even when invited, students from departments outside of the Department of Computer Science do not attend the event. Therefore, we did not push for their attendance as part of WPCCS 2017, and this was considered low-priority. In the future, extra effort could be made to get more students from departments such as WMG, Engineering and Physics to attend.

4 Finances

A budget of £1100 was agreed with the Department of Computer Science. This was the amount given for previous WPCCS conferences. Afterwards, an additional £300 was obtained from the Research Students Skills Program. Following our desire to improve WPCCS by including Conference Guides and other new material, the Department of Computer Science agreed to raise their budget to £1500, bringing the total event budget to £1800.

<table>
<thead>
<tr>
<th>Name</th>
<th>From</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Breaks + Lunch Food and Drink</td>
<td>Warwick Food &amp; Drink</td>
<td>£451.00</td>
</tr>
<tr>
<td>Lunch Pizza</td>
<td>Library Café</td>
<td>£245.00</td>
</tr>
<tr>
<td>Food Tables</td>
<td>Warwick Food &amp; Drink</td>
<td>£60.00</td>
</tr>
<tr>
<td>Conference Guides</td>
<td>Warwick Print</td>
<td>£395.00</td>
</tr>
<tr>
<td>Posters</td>
<td>Warwick Print</td>
<td>£296.94</td>
</tr>
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<td>Poster Boards</td>
<td>Warwick Conferences</td>
<td>£60.00</td>
</tr>
<tr>
<td>Poster Board Velcro Dots</td>
<td>Warwick Conferences</td>
<td>£5.00</td>
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<tr>
<td>Prizes</td>
<td>Amazon</td>
<td>£140.00</td>
</tr>
<tr>
<td><strong>Total Spend</strong></td>
<td></td>
<td><strong>£1652.94</strong></td>
</tr>
<tr>
<td><strong>Unspent Funds</strong></td>
<td></td>
<td><strong>£147.06</strong></td>
</tr>
</tbody>
</table>

4.1 Warwick Food & Drink

This food was ordered from the ‘Delivered to you’ menu, which can be found at [http://www2.warwick.ac.uk/services/foodanddrink/menus/wfd_delivered_menu.pdf](http://www2.warwick.ac.uk/services/foodanddrink/menus/wfd_delivered_menu.pdf). Payment was made by emailing foodanddrink@warwick.ac.uk and carbon copying Sharon Howard into the email. The following food was ordered:

1. For ‘Break 1’, ‘DIY Tea & Coffee’ (£1) was ordered, with the ‘Biscuits’ (£0.45) add-on. This was ordered for 40 people at £1.45 per person, thus totalling £58.00. We also ordered five cartons of juice (2 of the apple flavour, 2 of the orange flavour, and 1 of the cranberry flavour) at £2.35 a carton, totalling £11.75.

2. For ‘Lunch’, we ordered the ‘Finger Buffet. This was ordered for 25 people, at a cost of £7.85 per person. This totalled £196.25. We also ordered 25
of the ‘Loaf Cake Selection’ at £1.95 per person, thus totalling £48.75. Similarly, we ordered 25 ‘Cupcakes’ at £2.65 per person, totalling £66.25.

3. For ‘Break 2’, we again ordered ‘DIY Tea & Coffee’ (£1) with the ‘Biscuits’ (£0.45) add-on. This was again ordered for 40 people at £1.45 per person, thus totalling £58.00.

4. For the whole day, we rented six tables at a cost of £10.00 per table, totalling £60.00.

4.2 Library Café

The following pizza was ordered from Library Café, from the ‘all day pizza menu’. All pizzas were £7.00 each. Payment was made by emailing Joanna Slebodnik at J.Slebodnik@warwick.ac.uk and carbon copying Sharon Howard into the email.

1. 8 * Mediterranean Vegetable and Pesto (Vegetarian)
2. 7 * BBQ Pulled Pork and Caramelised Onion
3. 5 * Chicken and Bacon
4. 6 * Pepperoni
5. 9 * Four cheese and tomato (Vegetarian)

Overall, this came to £245.00. We also ordered 6 additional cartons of juice, at £2.00 per Carton, thus coming to £12.00 overall. The flavours of these cartons were 3 of the orange flavour, and 3 of the apple flavour.

4.3 Warwick Conferences

We borrowed eight poster boards from the Department of Computer Science at no cost to us. However, there was not enough space on these boards alone to place all of the posters. Therefore, we rented an additional six boards, each one metre by two metres, from Warwick Conferences, at £10.00 a board. In order to place the posters on these boards, we also bought a pack of 125 velcro dots, also from Warwick Conferences, at £5 per pack. This brought the total spent with Warwick Conferences to £65.00. Payment was made by emailing Warwick Event Production at EventProduction@warwick.ac.uk and carbon copying Sharon Howard into the email.

4.4 Evening Meal

Unfortunately, due to budget restrictions caused by the new features introduced to WPCCS 2017, we were unable to offer a subsidised meal. The Organising Committee felt that the new features were more of a benefit to the conference than the meal, and hence decided to drop it.
4.5 Warwick Print

We received a quote from Warwick Print for the Posters and the Conference Guides. These are listed below:

1. Posters - We requested 21 unique A0 Posters, and received a quote of £297 overall.

2. Conference Guide - We requested 100 identical copies of an A5 52 page Conference Guide, and received a quote of £395.00. These booklets were perfect bound, with colour covers printed on 250gsm silk paper, with the inside pages being colour and printed on 100gsm paper.

We accepted this quote and requested the material to be printed. Payment was made by emailing Gary Dawson at G.J.Dawson@warwick.ac.uk and carbon copying Sharon Howard into the email. The electronic copy of the Conference Guide can be found at http://www2.warwick.ac.uk/fac/sci/dcs/research/wpccs/wpccs17/book-online-only.pdf.

4.6 Awards

The Organising Committee decided to have a £10 Amazon Voucher prize for the best presentation in each track. Also, a £10 Amazon Voucher was designated to the best poster. Of the nine best presentations, we decided that one of these nine would received, in addition to their initial prize, a £40 Amazon Voucher as a ‘Best in Colloquium’ prize. However, as the presentations were generally of a very high quality, we split the ‘Best in Colloquium’ prize in two, awarding two £20 Amazon Vouchers to separate presentations. Overall, £140 was spent on prizes. The prize winners can be seen below:

1. Best Presentation in the Computer Vision track - Muhammad Shaban
2. Best Presentation in the Education track - Nicole Peinelt
3. Best Presentation in the Urban Science track - Katherine Harris
4. Best Presentation in the Foundations track - Charlie Dickens
5. Best Presentation in the Networking track - Peter Davies
6. Best Presentation in the Urban Analytics track - Neha Gupta (Also a winner of the ‘Best in Colloquium’ prize)
8. Best Presentation in the Artificial Intelligence & Transport track - James Archbold (Also a winner of the ‘Best in Colloquium’ prize)
10. Best Poster - Elena Kochkina
5 Attendance

44 Postgraduate Research Students presented on the day. An additional 5 were scheduled to present, but could not attend due to health or visa complications. 21 students submitted posters, with 9 of these attending the event. As posters are typically for people who cannot attend the event, this was roughly as expected. Overall, this brings the total number of students who participated on the day to 65, up from 52 the previous year. We received 73 submissions for review, up from 55 in the previous year, but 8 students cancelled for various reasons prior to our timetable being completed.

Session attendance was as follows:

<table>
<thead>
<tr>
<th>Track</th>
<th>Time</th>
<th>Student</th>
<th>Staff</th>
<th>Guests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro by Prof. Stephen Jarvis</td>
<td>9:20–09:30</td>
<td>38</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Guest Talk by Dr. Sara Kalvala</td>
<td>9:30–10:00</td>
<td>38</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Computer Vision (Pre-break)</td>
<td>10:00–10:50</td>
<td>19</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Education (Pre-break)</td>
<td>10:00–10:50</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Urban Science (Pre-break)</td>
<td>10:00–10:50</td>
<td>13</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Computer Vision (Post-break)</td>
<td>11:10–12:10</td>
<td>21</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Education (Post-break)</td>
<td>11:10-12:10</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Urban Science (Post-break)</td>
<td>11:10-12:10</td>
<td>12</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Guest Talk by Vic Smith</td>
<td>13:00-13:30</td>
<td>18</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Foundations</td>
<td>13:30-14:50</td>
<td>11</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Networking</td>
<td>13:30-14:50</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Urban Analytics</td>
<td>13:30-14:50</td>
<td>13</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Guest Talk by Alex Haak</td>
<td>15:10-15:40</td>
<td>37</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>High Performance Computing</td>
<td>15:40-17:00</td>
<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>AI &amp; Transport</td>
<td>15:40-17:00</td>
<td>12</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Machine Learning</td>
<td>15:40-17:00</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1: Attendance for each track

Note: For the purpose of this list, Dr. Sara Kalvala is included as ‘Staff’, as she is a full-time staff member of the University of Warwick’s Department of Computer Science. As we can see from this list, session attendance was very good and remained consistent throughout the day. The most popular talks were the guest talks, however, this is to be expected as no other talks were running in parallel with these sessions.

6 Feedback

Feedback on the event was overwhelmingly positive. Attendees were asked to rate the following as either ‘Excellent’, ‘Good’, ‘Poor’ or ‘Awful’. 29 attendees provided feedback, but not all answered all questions. The results are as follows:

Attendees were asked to comment on the new things introduced to WPCCS as part of WPCCS 2017. Specific comments included:
Table 2: Feedback

- I would like to see all of these again.
- Guest speakers were interesting, but would like to see more variety.
- Lanyards and the Oculus were good choices.
- The event was significantly better than the previous year.
- Staff introductions service well as a forcing function to get staff to attend and participate, but don’t add all that much in and of themselves
- I don’t think the Conference Guide added much, even though it was of a superb quality.
- The new things were not strictly necessary, but very professional and gave the impression of what a larger conference may be like.
- Please have more guest speakers.
- All of these were very useful, but the way the information was presented in the guide could have been a bit better.
- I’d suggest inviting staff to chair relevant sessions, and give an optional introduction.

Attendees were also asked if they had any additional feedback. Specific comments included:

- It would have been nice if more staff could have attended.
- To maximize the opportunity to see work, I would suggest to increase the number of posters and the duration, and to reduce the number of talks.
- The event was very well organised on the whole.
- It would have been useful to have this earlier, even at the start of the year, although this would be more difficult to organise.
• In general Oculus was fine, but the layout of the smaller rooms was inconvenient at times.

• Might have been nice to give slightly longer to third/fourth years who seemed to have more to say and interesting things to present.

• Increasing the length of time for the presentations would make them much better; nearly all I saw seemed rushed.

• If possible post the time of the talk on the ground floor screens, and also the map location.

• I think you can ask from faculty like myself to give a tutorial/talk/seminar or whatever is of interest to you.

• I think the tone of making the conference mandatory made more people turn up. But it also put a number of people off attending.

• Excellent day well organised and actioned.

• The event could do with better disabled access (OC0.02 was down some stairs).

• We need University of Warwick branding on the certificates, as it is the only yearly internal conference in the University of Warwick Department of Computer Science, and very much part of the University experience.

7 Chair’s Comments

Here, I will give some personal comments on the event.

• I believe that the new rule requiring all Postgraduate Research students to attend the entire day significantly improved the attendance at the event. However, many students still did not turn up for the entire day. I feel that there is still a significant amount of work to be done to make students attend for the entire day, both by future WPCCS organisers and by staff of the Department of Computer Science.

• Attendance from academics was much better this year than in recent years, but still only a minority of academics attended. Extra work should be carried out to encourage more academics to attend.

• Some students seemed disappointed that there was no subsidised evening meal this year, caused by the introduction of new material such as the Conference Guide. As the budget was not fully utilised, it may have been possible to offer a subsidised meal.
• I feel that the new material introduced for WPCCS 2017, such as the Conference Guide, Lanyards and Staff Introductions, were received extremely well by the attendees, and I would strongly encourage future organisers of WPCCS to also incorporate such ideas.

• This year, we had significantly more posters than usual. This actually benefitted us very well when organising the event, as those who did posters did not have to be scheduled to give a presentation. If we did have many more students giving presentations, we may have had to have four parallel tracks, or drop one of the guest speakers.

• We set up a go.warwick.ac.uk link (go.warwick.ac.uk/wpccs17), which proved useful when advertising the event.

• One of the members of the Organising Committee decided to order the Amazon Voucher prizes such that if we wanted to, we could split the ‘Best in Colloquium’ prize between two winners. This proved a good idea, as we did end up doing this on the day. I would suggest any future organisers keep this in mind.

• The additional £300 obtained from the Research Student Skills Programme really helped with being able to afford the extra printed material such as the Conference Guide.

8 Media

News was posted to the Department of Computer Science’s news ticker at http://www2.warwick.ac.uk/fac/sci/dcs/news/?newsItem=8a17841b5cf9d915015d08d065d06905. Images uploaded as part of the news article were taken both by members of the Organising Committee and by Richard Cunningham using the Department of Computer Science’s camera.

9 Conclusion

In conclusion, I feel that this year’s event went extremely well. The addition of the Conference Guide, Lanyards, Digital Signage, Guest Speakers and Staff Introductions really made the event feel like more of a real, professional conference. I would strongly encourage future organisers to keep some if not all of these for future events. The WPCCS 2016 report listed the following three areas which the chair felt needed to be focussed on:

• Increasing engagement from academics

• Getting PhD students from outside the department to attend

• Improving attendance from students in the department
I feel that we have improved both engagement from academics and attendance from students in the department. However, this still could be improved. With regards to getting PhD students from other departments to attend, this is still something that needs working on, as no students from other departments attended WPCCS 2017. Therefore, my suggestions for areas that future organisers should focus on are as follows:

- Increase attendance from both academics and students in the University of Warwick’s Department of Computer Science
- Increase attendance from those in other departments
- Have a greater variety of guest speakers, possibly including a speaker from the field of Urban Science, to reflect those in the Department of Computer Science’s Centre for Doctoral Training in Urban Science and Progress

10 Acknowledgements

I would like to thank Sharon Howard and Ruth Cooper of the Department of Computer Science, as well as Yvonne Colmer and Katie Martin of the Centre for Doctoral Training in Urban Science & Progress, for the help that they have given throughout the organisation of WPCCS 2017. This report was based on a template and structure of the WPCCS 2016 report, which can be found at http://www2.warwick.ac.uk/fac/sci/dcs/teaching/pgssl/com/minutes/WPCCS16.pdf. Finally, I would also like to say thank you to the Organising Committee for their great work.
Warwick Postgraduate Colloquium in Computer Science
The Oculus · Friday 30th June
Programme

Abstracts are available here

The event will be held on Friday 30th June 2017 in the Oculus. We look forward to seeing you there!

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 09:20</td>
<td>Registration (OC0.02)</td>
</tr>
<tr>
<td>09:20 - 09:30</td>
<td>Welcome from Professor Stephen Jarvis (OC0.02)</td>
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<tr>
<td>09:30 - 10:00</td>
<td>Guest Speaker (OC0.02)</td>
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<tr>
<td>10:00 - 10:05</td>
<td>Staff Introduction: Dr. Abhir Bhalerao</td>
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<tr>
<td>10:05 - 10:20</td>
<td>Context-aware Patch Classification in Whole Slide Tissue Images</td>
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<tr>
<td></td>
<td>Muhammad Shaban</td>
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<tr>
<td>10:20 - 10:35</td>
<td>Face Recognition Against Ageing with Deep Learning</td>
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<td></td>
<td>Haoyi Wang</td>
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<tr>
<td>10:35 - 10:50</td>
<td>Detecting Realistic Events in Surveillance Videos</td>
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<td>Roberto Leyva Fernandez</td>
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<td>10:50 - 11:10</td>
<td>Break</td>
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<td>11:10 - 11:25</td>
<td>Towards Stereo Vision ConvNets in Real-Time</td>
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<td></td>
<td>Jamie Bayne</td>
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<td>11:25 - 11:40</td>
<td>Deep Passenger State Monitoring</td>
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<tr>
<td>11:40 - 11:55</td>
<td>Hierarchical convolutional neural network for segmentation of tumour</td>
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<td>rich areas in breast cancer histology images</td>
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<td></td>
<td>Simon Graham</td>
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<tr>
<td>11:55 - 12:10</td>
<td>End-to-End Latent Relationship Learning of Mid-Level Deep Features</td>
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<td>Shan Lin</td>
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<td>12:10 - 13:00</td>
<td>Lunch</td>
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<td>Posters on display:</td>
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</table>

Track 1 (OC1.07) Computer Vision
Session Chair: Liam Steadman

Track 2 (OC1.08) Education
Session Chair: Richard Kirk

Track 3 (OC1.09) Urban Science
Session Chair: David Purser

- **Microbial communities: Understanding and exploiting the origins of cooperative behaviour**
  - Dr. Sara Kalvata

- **How does resilience-thinking make urban critical infrastructure management more effective?**
  - Philipp Ulbrich

- **Urbanisation in the Arctic: Planning for Development and Change**
  - Melissa Kenny

- **The importance of geohazards for urban resilience: A study of Thessaloniki, Greece and its participation in the 100 Resilient Cities Network**
  - Vangelis Pitidis

- **Reflective Writing in Computer Science**
  - Huda Al rashidi

- **Are changing management practices in urban parks and greenspaces increasing biodiversity, and are there trade-offs with amenity?**
  - Corinne Muir
Commuting and Well-being
Zakiyya Adam

Predicting floods with Flickr tags?
Nataliya Tkachenko

Investigating high-achieving students’ code-writing abilities through the SOLO taxonomy
Ayman Qahwash

Understanding Neighborhood Dynamics Through In-situ Sensing of the Urban Environment
Nicholas Johnson

Concept change in machine learning
Adam Gelencser

A Green and Pleasant Land
John Rahilly

Combining Heterogeneous User-Generated Data to Sense Well-being
Adam Tsakalidis

Sequential Approach to Rumour Stance Classification
Elena Kochkina

Person Re-identification using Partial Least Squares Appearance Modelling
Greg Watson

Bringing Cities to Life: a multilevel spatial modelling approach to analysing greenspace types, accessibility and mental wellbeing
Vikki Houlden

Bootstrapping Trust and Stereotypes with Tags
Caroline Player

Parallelizing the All-Pairs Shortest-Path Algorithm for Large Scale Graphs
Mohammed Alghamdi

TDParse: multi-target specific sentiment recognition on Twitter
Bo Wang

Towards Selecting Routing Protocols for Source Location Privacy Aware Sensor Networks
Chen Gu

Proactive Database Forensics: Chain of Custody Requirements for Database Audit Records
Denys Flores Armas

Identifying data trends to support current and future service planning in Birmingham
Sarunkorn Chotvijit

Cross-Color Channel Perceptually Adaptive Quantization for HEVC
Lee Prangnell

A Spatio Temporal, Gaussian Process Regression, House Price Predictor
Henry Crosby
### Performance Portability of a Representative Unstructured ALE mini-app

David Truby

### Monitoring and Debugging in Wireless Sensor Networks - Survey

Al Alharbi

### Using Recurrent Neural Networks (RNNs) to Improve Accuracy in Automatic Music Transcription

Martina Klusovcova

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>13:00 - 13:30</td>
<td>Guest Speaker (OC0.02)</td>
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<td>Programming with Dependent Types</td>
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<td></td>
<td>Vic Smith</td>
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<td>13:30 - 13:35</td>
<td>Staff Introduction: Prof. Artur Czumaj</td>
<td>OC0.07</td>
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<td>Staff Introduction: Dr. Arshad Jhumka</td>
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<td>13:30 - 13:35</td>
<td>Staff Introduction: Prof. Graham Cormode</td>
<td>OC0.09</td>
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<tr>
<td>13:35 - 13:50</td>
<td>Deterministic Distributed and Streaming Algorithms for Linear Algebra Problems</td>
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<td>Charlie Dickens</td>
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<td>13:50 - 14:05</td>
<td>Differential Privacy using Bistimulation</td>
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<td>David Purser</td>
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<td>14:05 - 14:20</td>
<td>Privacy Preserving Data Aggregation and Marginal Release</td>
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<td>Tejas Kulkarni</td>
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<td>14:20 - 14:35</td>
<td>Compilers: the Practical Benefits of a Theoretical Approach</td>
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<td>Eleanor Davies</td>
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<td>14:35 - 14:50</td>
<td>Resource and Makepan Minimization for Time-sharing DAG Application</td>
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<td>Shenyan Ren</td>
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<td>14:50 - 15:10</td>
<td>Break</td>
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<tr>
<td>15:10 - 15:40</td>
<td>Guest Speaker (OC0.02): Innovation or Industry</td>
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<td>Alex Haak (Improbable.is)</td>
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<td>15:40 - 15:45</td>
<td>Staff Introduction: Dr. James Davis</td>
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<td>15:40 - 15:45</td>
<td>Staff Introduction: Dr. Phil Taylor</td>
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<td>15:40 - 15:45</td>
<td>Staff Introduction: Dr. Theo Damoulas</td>
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<tr>
<td>Time</td>
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<td>15:45 - 16:00</td>
<td>A New Approach to Neural Cryptography - Utilizing One-Time Pad in an Audio Cryptosystem</td>
<td>Jack Jackson</td>
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<td>Transfer Learning for Concept Drifting Data Streams</td>
<td>Helen McKay</td>
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<td>Accelerating Training Process of Deep Neural Network via Improving Weight Updating Algorithm</td>
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<td>16:00 - 16:15</td>
<td>Predicting scaling performance of a production CFD solver</td>
<td>Andrew Owenson</td>
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<td>Vehicle Visit Detection using In-car Data</td>
<td>James Van Hinsbergh</td>
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<td>Mining similar subsequences in time series efficiently</td>
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<td>16:15 - 16:30</td>
<td>Novel Data Structures and Parallelisations using Mini-Applications</td>
<td>Richard Kirk</td>
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<td>Convention Emergence in Partially Observable Topologies</td>
<td>James Marchant</td>
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<td>Verification of Outsourced Data Analysis</td>
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<td>16:30 - 16:45</td>
<td>Higher Order Algorithms for Particle-in-Cell Simulations</td>
<td>Dom Brown</td>
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<td>Limiting Concept Spread in Environments with Interacting Concepts</td>
<td>James Archbold</td>
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<td>Enabling Data-Driven Dependability Analysis from Cluster Log Data</td>
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<td>16:45 - 17:00</td>
<td>All-Reduce for Distributed Machine Learning</td>
<td>Zhenyu Li</td>
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<td>Methods for linking and analysing disparate data sets</td>
<td>Liam Steadman</td>
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<td>Twitter Analysis to Predict the Satisfaction of Telecom Company Customer</td>
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<td>17:10 - 17:20</td>
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Application for Funding for Student-Led Conferences, Seminars or Research-related Events

ELIGIBILITY:

- This funding is ONLY available to postgraduate research students currently registered at the University of Warwick (PhD, MPhil, MRes, EdD, EngD and other doctoral programmes).
- For an event to be eligible, one or more Warwick postgraduate research students must be primarily responsible for its organisation.
- Funding is limited to a maximum of £300 per academic department per year. One or more postgraduate research student(s) from this department must complete and submit the application. Your application must be signed off by your Head of Department as confirmation that they support this allocation of funds.
- If an event is organised by postgraduate research students from multiple departments, a maximum of £600 per event applies (subject to the limit of £300 per department and the approval of each Head of Department). Only one application form is required but must be signed off by a research student from EACH department and EACH Head of Department.
- If you are a member of research staff, please see the Learning & Development Centre website for similar funding (http://www2.warwick.ac.uk/services/ldc/funding/researchers/)

Title of your activity/event: Warwick Postgraduate Colloquium in Computer Science 2017
Date of your activity/event: 30/06/2017
Website URL (if available): warwick.ac.uk/fac/sci/dcs/research/wpccs/wpccs17
Will it be taking place on campus? YES / NO*
Will it be open to students from other departments? YES / NO*

Details of the main organiser(s)
Name: Gregory Watson
Department: Computer Science
Course: Urban Science PhD
Email address: G.A.Watson@warwick.ac.uk

Are any other student-led conferences occurring in your department? YES / NO
Have these received funding from the RSSP? YES / NO N/A
**Scope and impact of the proposed activity/event:**

*Please highlight the aims for this activity/event; who your target audience is; an estimate of the numbers of students who will be involved & in what capacity; an indication of how you will measure the impact of the activity/activities.*

The Warwick Postgraduate Colloquium in Computer Science is a student-run conference held annually in the Computer Science department, having first run fifteen years ago. It aims to give all postgraduate students, from first year through to finalists, an opportunity to present their work to their peers and to gain valuable experience in presenting in a conference-style setting. We believe that this provides students with a space to refine their skills in presenting. However, past events have suffered from students simply turning up for their presentation and then leaving. We are aiming to revamp the event this year by running it in the new Oculus building and encouraging students to take advantage of the facilities available and network with their peers.

The event is open to all students and staff. Whilst presenting has traditionally been available only to Computer Science students, we will be following the example set by the previous year’s event and allowing students from other departments to get involved. First year students will be asked to give a presentation, with students in other years allowed to give presentations or present posters. Last year, about seventy students attended, but we expect a slightly larger number due to the increase in the size of the CDT in Urban Science and Progress.

All Computer Science Postgraduate Research students are expected to present, with a small number of students from other departments also expected to present. Therefore, we predict somewhere in the range of ninety to a hundred students to be involved on the day. Each student will attend all presentations that are part of the session which they are assigned, and therefore between presenting and observing, there should be a substantial number of students involved at any one time.

Feedback will be obtained via student feedback forms, both electronic and paper-based. This will be done in two phases. Firstly, feedback forms will be available during the event. Afterwards, a questionnaire will be sent out electronically approximately one month after the event to judge whether or not there have been any further developments, such as new collaborations formed.
Skills Development:
As this funding is provided by Student Careers & Skills, please explain how the proposed event will develop skills & experience: 1) for your organisational team; 2) for the other students involved; 3) for the attendees.

The Organisational Team:
The organisational team will consist of roughly five session chairs, who will co-ordinate the event by carrying out the following tasks:
1. Producing and proof-reading documents to present to the Department of Computer Science.
2. Booking rooms.
3. Organising catering.
4. Reviewing student submissions by providing feedback. This provides the organisation team valuable experience in peer reviewing other people’s work.
5. Ensuring adequate equipment is in good working order on the day.
6. Managing each presentation session. This includes making sure presenters keep to time and ensuring smooth running of the day.

Students Involved:
Students involved will gain experience in presenting to a technical audience, ensuring that they are well prepared for conferences that they will attend. Whilst the audience will be technical, they will not be experts in the presenters field, thus the students will gain experience in how to present to these types of audience. Students will also take part in a question and answer session, giving them opportunity to practice this as well as potentially seeing their work from an external point of view.

Students attending will also get the opportunity to view other student’s presentations as an audience member. This will allow them to learn what research their peers are carrying out, potentially allowing collaborations to form. This will also give students an opportunity to practice asking other students technical questions.

For students who do not take part in presenting, they will also have the opportunity to present a poster, allowing them to enhance their skills relating to academic poster design, and engage in technical discussion with others about their research topics.

Attendees:
For attendees not presenting, these attendees will be able to gain an understanding of the research performed in the Department of Computer Science. This could be beneficial for two main reasons; Firstly, for those currently undertaking Postgraduate Research, collaboration could form. Secondly, for students not quite at the level of Postgraduate Research yet, these students could gain insight on whether or not a PhD in the Department of Computer Science is right for them.

How much funding are you applying for? Max. bid per department=£300. Max. bid per event (if multiple departments)=£600

£300

Please provide a cost code to which you would like the money transferred (speak to your departmental secretary about this).

<REMOVED>

After your event, we require you to write a reflective report designed to be useful to future student event organisers. This should include:

➢ how you felt it went;
➢ how many students were involved in a) the organisational process, b) presenting at the conference itself, c) attending the conference;
➢ what you learned during the organisational process, and any challenges you encountered;
➢ how it has contributed to your research and helped you develop as a researcher;
➢ what would you do differently next time;
➢ if possible, what tangible results came of organising the event (e.g. publications, opportunities)?

<table>
<thead>
<tr>
<th>Your signature (to confirm that you understand the requirements and agree to provide a report after the event/activity)</th>
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<td>G. A. Watson</td>
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<th>Signature of your Head of Department (to confirm that this event should receive the department’s annual allocation of funds)</th>
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<th>Name of your Head of Department</th>
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<tr>
<td>Professor Stephen Jarvis</td>
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Please return your completed application to: Research Student Skills Programme Administrator, Student Careers & Skills, University House, or email it to: pgresearchskills@warwick.ac.uk
It is my pleasure to welcome you to the Warwick Postgraduate Colloquium in Computer Science 2017 (WPCCS), to be held from this year onward in a new format. The organizers have worked very hard to reshape WPCCS into an interesting and captivating event. It is now your turn to make it better by sharing your research experiences, ideas, and visions with your peers.

What brings you all together is your passion for innovation and an inherent desire to achieve something outstanding in the field of Computer Science. Unlike most of your former colleagues you have chosen the unknown path, yet you are confident that your perseverance to face the murky facets of research and your ingenuity to solve open problems will guide you through. And they will.

You have been fortunate to explore your talent in Warwick CS, which is one of the most fertile breeding grounds for creativity like yours. Our Department is equipped with a fine team of researchers who once undertook unique challenges like yours. Not only did they succeed, but they are now here because they want to further succeed through you. Learn from them, leverage their experience and intuition, but do remain assertive by trusting your instincts. Working closely together will largely narrow the gap to your joint success.

WPCCS is an excellent opportunity to widely expose where you currently stand. Speak up and do enjoy letting yourself be challenged!

- Florin Ciucu
The postgraduate population in Computer Science continues to grow and there are now more than 100 registered PhD students in the Department. At the same time, the number of academics in Computer Science is also growing and we are pleased to be adding expertise in areas including cyber-physical systems, databases, computational modelling and dynamic graph algorithms, amongst others. Research students and staff are enjoying the benefits of the Department’s association with the Center for Urban Science in New York and the Alan Turing Institute in London, as well as with the many companies and organisations that work with us.

In October we will be celebrating 50 years of Computer Science at Warwick. It is fitting therefore that our 40,000 ft$^2$ laboratory extension will open in this 50$^{th}$ year, marking a forward-looking transition to the new era. I often have the pleasure of meeting alumni, who are now business leaders, wealthy entrepreneurs or leading academics. They remind me that Warwick continues to be an excellent institution in which to conduct research, with some of the strongest academic departments in the country, and that Computer Science has an enviable reputation for impactful research, which remains at the forefront of change in our society.

Good luck with WPCCS 2017 and I hope you have an interesting and instructive day.

- Stephen Jarvis
TRACK 1 · OC1.07
Computer Vision
Chair: Liam Steadman
Muhammad Shaban
Haoyi Wang
Roberto Leyva Fernandez

TRACK 2 · OC1.08
Education
Chair: Richard Kirk
Noor Hasimah Ibrahim Teo
Ebtehal Quqandi

TRACK 3 · OC1.09
Urban Science
Chair: David Purser
Philipp Ulbrich
Melissa Kenny
Isy Slattery

BREAK
Jamie Bayne
Ian Tu
Simon Graham
Shan Lin

Dimah Al-Fraihat
Nicole Peinelt
Nouf Almujally
Huda Alrashidi

Vangelis Pitidis
Katherine Harris
Aseel Alturki
Corinne Muir

LUNCH
TRACK 4 · OC1.07
Foundations
Chair: James Van Hinsbergh
Charlie Dickens
David Purser
Tejas Kulkarni
Eleanor Davies
Shenyuan Ren

TRACK 5 · OC1.08
Networking
Chair: Richard Kirk
Betty Agbons
Farrukh Qazi
Matthew Bradbury
Jack Kirton
Peter Davies

Urban Analytics
Chair: Liam Steadman
Neha Gupta
Timothy Sit
Elisabeth Titis
Alex Caton

BREAK
TRACK 7 · OC1.07
High Performance Computing
Chair: Matthew Bradbury
Jack Jackson
Andrew Owenson
Richard Kirk
Dom Brown
Zhenyu Li

TRACK 8 · OC1.08
Artificial Intel. & Transport
Chair: David Purser
Helen McKay
James Van Hinsbergh
James Marchant
James Archbold
Liam Steadman

Machine Learning
Chair: Greg Watson
Junyu Li
Zhuoer Gu
Christopher Hickey
Edward Chuah
Latifah Almuqren

POSTERS
Zakiyya Adam
Mohammed Alghamdi
Al Alharbi
Sarunkorn Chotvijit
Henry Crosby
Denys Flores Armas
Adam Gelencser

Chen Gu
Vikki Houlden
Nicholas Johnson
Martina Kluvancova
Elena Kochkina
Caroline Player
Lee Prangnell

Ayman Qahmash
John Rahilly
Nataliya Tkachenko
David Truby
Adam Tsakalidis
Bo Wang
Greg Watson
WHEN & WHERE

9:20 am  Welcome from Prof. Stephen Jarvis in OC0.02
9:30 am  Guest talk from Dr. Sara Kalvala in OC0.02 (see page 6)
10:00 am Tracks 1, 2 & 3
10:50 am Break with refreshments in foyer
11:10 am Tracks Continue
12:10 pm Lunch and posters in ground floor foyer
1:00 pm Guest talk from Vic Smith in OC0.02 (see page 7)
1:30 pm Tracks 4, 5 & 6
2:50 pm Break with refreshments in foyer
3:10 pm Guest talk from Alex Haak in OC0.02 (see page 7)
3:40 pm Tracks 7, 8 & 9
5:10 pm Prizes awarded in OC0.02 (see page 8)
Guest Talks

Microbial communities: Understanding and exploiting the origins of cooperative behaviour

Dr. Sara Kalvala · Presentation at 9:30am in OC0.02

Micro-organisms are all around us - usually forming rich multi-species communities where hundreds of thousands of individuals interact, whether to cooperate, compete, or feed on each other. These communities of micro-organisms affect many aspects of our day-to-day life, and are the focus of experimental research by biologists, biochemists, bio-engineers and environmentalists. There is also significant interest by mathematicians, computer scientists and even social scientists and philosophers in studying microbial communities, as concepts of cooperation and competition are relevant not only at the micro-organism level but everywhere - between nations, between animals, between mobile phone users, and so on. A Multi-Agent System is an abstract, computational model of how individuals interact to form communities, and the use of this abstraction allows research as well as application in the development of nature-inspired computational tools.

In this session Sara will introduce the general concept of a Multi-Agent System, from a computational perspective. She will then discuss how she uses abstract models to understand more about how microbes organize themselves into colonies and work together, and on the flip side how this understanding of how microbes work together inspires new technologies.
Programming with Dependent Types

**Vic Smith · Presentation at 1:00pm in OC0.02**

This talk explores the world of dependent types, primarily in the Idris language. Dependent types allow greater safety of code in a practical way, with features like proofs instead of tests, and guarantees that your programs will terminate. But they also offer much more: like generic programming, and type driven development with compiler assisted coding — which sometimes involves the compiler writing the entire program for you.

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Innovation or Industry

**Alex Haak · Presentation at 3:10pm in OC0.02**

A look at the mutual exclusivity of innovation and industry. Does working for a company preclude you from working on the cutting edge?

At Improbable, we want to be living proof that this is not the case. We have the, somewhat ambitious, mission of using new research to transform understanding of complex problems and systems. Our tech lets organisations use large scale agent-based simulation to gain insight and help decision making. In common English, this translates to: “We do some pretty cool stuff”. We explore, research and experiment, all whilst delivering real value and making money.

Featuring rocket science, the matrix and other unrelated concepts.
WPCCS aims to engage attendees with their colleagues’ research and with research in the wider community. For this purpose, the Department of Computer Science and the Research Student Skills Programme have kindly agreed to sponsor the event.

For today’s posters and presentations, 10 prizes will be awarded by the Programme Committee. An Amazon voucher will be awarded per track for the presentation that best informs and educates with engaging deliverance and another to the most insightful poster. One of these prizes will be awarded as ‘Best in Colloquium’.
Context-aware Patch Classification in Whole Slide Tissue Images

Muhammad Shaban · Presentation at 10:05am

Convolutional Neural Networks (CNN) models are best suited to many image classification tasks. However, this is not true for classification of gigapixel resolution Whole Slide Tissue Images (WSI). Processing a WSI as whole through a CNN is computationally unfeasible. The only plausible option is patch-level classification of WSI into different classes (tumour and benign). However, classification of some tumour classes requires large contextual information which cannot be captured by a single patch. We proposed a context aware stacked CNN based patch classifier that will consider the feature of neighbouring patches while classifying a given patch. First network takes a larger patch, which should consist on multiple small patch, and convert its sub-patches into high dimensional feature space and then second network take those features and predict the class of each sub-patch using context information. This approach will be useful to improve the accuracy of simple patch based classifier and WSI classification.

Face Recognition Against Ageing with Deep Learning

Haoyi Wang · Presentation at 10:20am

Missing Children is a critical issue that has troubled thousands and even millions of families around the world. By implementing a face recognition system that is able to against ageing, we can recognise and locate those missing children even years or decades later after the tragedies happened. Besides, deep learning is one of today’s trending topics. In the presentation, I will firstly review what is deep learning and some state-of-the-art convolutional neural network structures, followed by some recent papers on age estimation and the ageing problem that involved deep learning. Then, my proposed method and current progress are discussed.
Proactive Database Forensics

Chains of Custody Requirements for Database Audit Records

Dennis A. Flores and Archid Bhardwaj

Department of Computer Science
University of Warwick

INTRODUCTION

EVIDENCE COLLECTION

EXPERIMENTAL RESULTS

APPLICATIONS

CONCLUSION

ACKNOWLEDGMENTS

REFERENCES