sicsa*

The Scottish Informatics & Computer Science Alliance

PhD Conference • University of Dundee • 27-28 June 2017

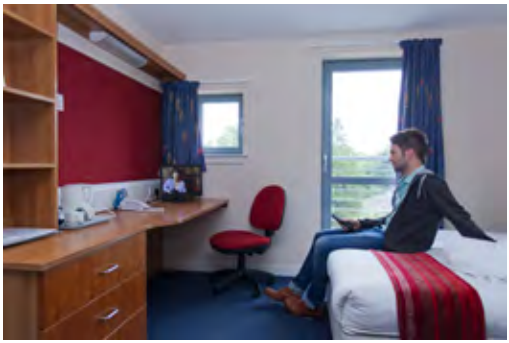
Contents

Delegates travelling from outside Dundee who requested it during registration are provided with free accommodation on the night of the 27th on Dundee University's West Park campus.

Check-in is from 5:30pm onwards, with bus transport taking delegates from the social activities to West Park, then to and from the barbecue dinner that evening. There will be a bag drop facility during both days of the conference; bags should be left on the bus during the social events.

Breakfast is provided on the morning of the 28th, between 7 and 9 am in Henderson's Restaurant, with the bus to the conference venue leaving at 9.

If you need to make your own way to the accommodation at any point, the address is 319 Perth Road, Dundee DD2 1NN.



On behalf of SICSA and the Conference Organising Committee, I would like to welcome you to the 2017 PhD Student Conference at the University of Dundee. Dundee is the City of Discovery, and I hope that you buy into this theme over the next few days, by actively engaging with the conference workshops, keynotes and poster sessions in order to expand your own research and experiences.

My thanks must go to all who have made the conference possible. This includes the SICSA administration team (particularly Steven Kendrick and Aileen Orr) who have worked tirelessly to support the student organisers, workshop facilitators who have given up their time to lead delegates through a varied range of topics and skills.

Computing can transform lives in so many different ways, and it is this variety that we are celebrating here at the conference. Going forward, I encourage you all to value the varied expertise you will encounter over the next few days, work with one another and through these collaborations your research will make a difference in Dundee, Scotland and beyond.

Enjoy the conference!

Dr Rachel Menzies
Academic Chair, 2017

An Entrepreneurial Journey

Chris's personal experience from graduating in computer science, starting his first company and beyond, including the high and the lows. And looking to the future, what does it hold for the tech sector? What opportunities are out there?

Biography

Chris van der Kuyl is an entrepreneur whose expertise combines the start-up, development and market listed business arena in the technology, media and entertainment sectors, and will be telling us about his 'Entrepreneurial Journey' from graduating to founding his first company to the present.

Founder, Owner and Chairman of 4J Studios which is one of the UK's most successful videogame developers and responsible for the multi-million selling and multi-award winning Minecraft Console editions. Minecraft is a global phenomenon and is currently on track to become the most successful videogame of all time.

Chris is a visiting professor of digital entertainment at University of Abertay Dundee and has been awarded an honorary Doctor of Laws degree from the University of Dundee, an honorary Doctor of Business degree from Edinburgh Napier University and Doctor honoris causa from the University of Edinburgh. Elected as one of the youngest Fellows of the Royal Society of Edinburgh, Chris has been convener of the RSE Young People's Committee and also sits on the boards of TV Squared, brightsolid Online Technology, Scottish Institute for Enterprise, Scottish EDGE Advisory, UK Digital Catapult, Dundee Science Centre, Dundee Museums Trust, High School of Dundee and the Royal Scottish National Orchestra.

Chris is also the founding Chairman of Entrepreneurial Scotland (ES), the organisation recently formed by the coming together of The Entrepreneurial Exchange and The Saltire Foundation. ES represents all Scotland's Entrepreneurial talent and exists to inspire, connect and develop entrepreneurial behaviour in all Scotland's people.

Abstract

I graduated in 1987 — 30 years ago! At that time, we learned of a future society driven by technology. Looking back, much of this has come to pass but not necessarily in the way that was predicted. Some capabilities, such as artificial intelligence (AI), have proved harder than expected whilst others, such as the Internet, have romped ahead transforming all industries and our every day lives. All of this change has lead to a fascinating career for those of us in the computing profession, and change is accelerating. What will the next 30 years bring? In this talk I will reflect on my career, what I see has driven technological transformation and how this can be used to frame the research challenges.

Biography

Mandy Chessell CBE FREng CEng FBCS is an IBM Distinguished Engineer, Master Inventor and Fellow of the Royal Academy of Engineering. Mandy is a trusted advisor to executives from large organizations, working with them to develop their strategy and architecture relating to the governance, integration and management of information. She is also driving IBM's strategic move to open metadata and governance through the Apache Atlas open source project. More information about Mandy's work and publications can be found on Wikipedia and on LinkedIn.

Social Activities & Conference Barbecue Dinner

The conference will feature a range of social activities in and around Dundee. The activities offer the opportunity to take a break from the classroom-based sessions; network with other delegates; and perhaps try an activity you've never done before! The main social activities will take place on 27th June from 15:15-17:15 and will be followed at 19:00 by a Barbeque and social evening at the Dundee University Students' Association, on-campus. Buses will be provided to transport delegates to each venue and back to the accommodation afterwards, except for Avertical World which is right across the road from the conference venue.

Avertical World Climbing

Do you enjoy climbing or have always wanted to give it a go? We have 24 places available for indoor climbing. You will be split into 4 groups of 6, with each team getting their own instructor. All equipment (shoes, harness, and helmet) is provided. The venue recommends you wear a t-shirt, fleece (if cold), and stretchy/loose fitting trousers or track suit bottoms. Climbers who have long hair should tie back it back and jewellery/watches will need to be removed before climbing. Full details on the Avertical World website. Avertical World is very close to the Dalhousie so it is only a short walk away.

Participants should wear loose-fitting clothing, thin ankle socks (as wearing hire shoes), spectacle wearers and people with long hair should bring a tie-back and rings/watches should be removed whilst climbing.

McManus galleries

The McManus: Dundee's Art Gallery and Museum offers a fascinating insight into Dundee and with 8 galleries to explore, there is a wealth of information to discover in our exhibitions of art, history and the environment.

Learn more at the McManus website, www.mcmanus.co.uk

Social Activities & Conference Barbecue Dinner

Camperdown, Dundee

We will arrange bus transport from the conference venue out to Dundee's Camperdown area, where a 9 screen cinema, go karting track, skating rink and wildlife park all combine to offer a variety of activities.

Ice skating

Want to do something cool? You can try skating at Dundee's indoor ice rink. It will certainly make for an interesting way to get to know your fellow PhD students. Session ends 4:30.

Scotkart Go-Karting

Feeling competitive? We have 14 places available for indoor karting. There will be a 10 lap qulifying/practice round, followed by a 14 lap race, and a medal presentation at the end. The venue provides race suits, helmets, and gloves so all you need are comfortable clothes to wear underneath, and flat shoes or trainers. Please note there is an additional fee of £2 you will have to pay on arrival for balaclavas (which you can keep at the end) and a minimum driver height of 1.5 meters: full details can be found on the ScotKart website.

Cinema

With nine screens to choose from at Cineworld Dundee, anyone interested in taking in a film should find something to their liking here — title details and times will be distributed before the conference, with tickets to collect at registration.

Camperdown Wildlife Centre

With everything from eagles and owls to Clydesdale horses and bears, a walk round the Camperdown Wildlife Centre will give a tranquil and interesting break in the busy conference schedule.

The social activities will be followed by an informal barbecue dinner (all food and drinks included) at 19:30 at Dundee University's Students' Association. Bus back to the accommodation at 21:30, or those wanting to stay later and make their own way back get free admission to the upstairs bar area and Club Night.

Artificial Intelligence

1. iCub Food Preparation Assistant
   Ingo Keller, Heriot-Watt University
2. A Dynamic Model of Trust in Dialogues
   Gideon Ogunniye, University of Aberdeen
3. Finding the right e-learning Materials
   Blessing Mbipom, Robert Gordon University
4. Comparator Based Heuristics for Combinatorial Optimisation
   Christopher Stone, Edinburgh Napier University
5. Towards a Distributed Data-Sharing Economy
   Samuel Cauvin, University of Aberdeen
6. Home Automation: HMM based fuzzy rule engine for ambient intelligent smart space
   Gopal Jamnal, Edinburgh Napier University
7. Real-Time Policy Learning with User Feedback for British Sign Language (BSL) Users in an Example of Navigation-Based Task
   Boris Mocialov, Edinburgh Centre for Robotics (Heriot-Watt University)
8. Supervised Machine Learning Techniques for Cross Domain Sentiment Analysis
   Azwa Abdul Aziz, University of Aberdeen
9. Improving forecast accuracy for grid demand and renewables supply with pattern-match features
   Usman Sanusi, Heriot-Watt University
10. Taking Speech Based Interfaces to Children's Speech Therapy
    Revathy nayar, University of Strathclyde
11. Conceptualizing a Framework for Adaptive Exercise Selection
    Juliet Okpo, University of Aberdeen
12. Adaptive Persuasive Games for Mental Wellbeing
    Ana Ciocarlan, University of Aberdeen
13. From Talking at Machines to Talking with Machines
    Mateusz Dubiel, University of Strathclyde
14. Hard Variants of the Student-Project Allocation Problem
    Frances Cooper, University of Glasgow
15. Models of the evolutionary origins of institutions and hierarchy to improve large self-organized systems
    Cedric Perret, Edinburgh Napier University
16. Can we correct semantic errors in programming assignments using natural language understanding techniques?
    Ben Trevett, Heriot-Watt University

Cyber Security

17. Fast Forensics Processing Using Partial Data
    Sean McKeown, Edinburgh Napier University

Data Science

18. Textually Summarising Incomplete Data
    Stephanie Inglis, University of Aberdeen
19. Exploring Time-Sensitive Variational Bayesian Inference LDA for Social Media Data
    Anjie Fang, University of Glasgow
20. Graphs in Recommendation Systems
    Kurt Portelli, University of Glasgow
21. Leveraging Edge Computing through Collaborative Machine Learning
    Kurt Portelli, University of Glasgow
22. GraphCache: A Caching System for Graph Queries
    Jing Wang, University of Glasgow
23. Finding the Zone of Proximal Development: Student-Tutor Second Language Dialogue Interactions
    Arabella Sinclair, University of Edinburgh
24. Application Container Orchestration on Clouds
    Uchechukwu Awada, University of St Andrews
25. Predictive Intelligence on the Edge
    Natascha Harth, University of Glasgow
26. Matrix Factorization for Package Recommendations
    Agung T Wibowo, University of Aberdeen

Human Computer Interaction

27. It's not just the light: Situational Visual Impairment During Mobile Interaction
    Garreth Tigwell, University of Dundee
28. A Framework for Speechreading Acquisition Tools
    Benjamin Gorman, University of Dundee
29. Gesture Typing through Indirect Absolute on-demand Touch Surfaces: Impact of Input Space on Performance
    Antoine Loriette, University of Glasgow
30. Evaluating Interactive Visualisations of Cell Signalling Networks
    Andrei Boiko, University of Abertay

Networking & Systems

31. Task Offloading Engine for Heterogeneous Mobile Clouds
    Dawand Sulaiman, University of St Andrews
32. 60GHz small cells backhauling: A max-min approach to rate allocation and scheduling
    Rui Li, University of Edinburgh

Theory, Modelling & Computation

33. An Integer Programming (IP) model for a matching problem
    Sofiat Olaosebikan, University of Glasgow
34. Evolving logical theories by combining reformation and belief revision
    Xue Li, University of Edinburgh
35. Concurrent agents: from computers to cells
    Thomas Wright , University of Edinburgh

Technical Demonstrations

The following posters also have accompanying technical demonstrations by the author:

3. Finding the right e-learning Materials (Artificial Intelligence)
Blessing Mbipom, Robert Gordon University

28. A Framework for Speechreading Acquisition Tools (Human Computer Interaction)
Benjamin Gorman, University of Dundee

30. Evaluating Interactive Visualisations of Cell Signalling Networks (Human Computer Interaction)
Andrei Boiko, University of Abertay

31. Task Offloading Engine for Heterogeneous Mobile Clouds (Networking & Systems)
Dawand Sulaiman, University of St Andrews

Day 1: Tuesday, June 27 2017

09:30-10:20	Registration and bag drop *Dalhousie Building foyer*
10:20-10:30	Opening Talks - Jeremy Singer and Rachel Menzies *Dalhousie Building, Main Lecture Theatre 4*
10:30-12:00	Thesis Statements (Years 1-2) *Dalhousie Building, room 2G13*
	Viva Survival *Dalhousie Building, room 2F13*
	How to write a great paper and present it *Dalhousie Building, Main Lecture Theatre 4*
12:00-12:10	Coffee break *Dalhousie Building foyer*
12:10-13:00	Poster and Demonstration Sessions (part 1) *Dalhousie Building Main Foyer*
13:00-14:00	Lunch *Dalhousie Building foyer*
14:00-15:15	Keynote — Professor Chris van der Kuyl *Dalhousie Building, Main Lecture Theatre 4*
15:15-17:15	Social Events *Various - bus transport to venues and from venues to accommodation*
17:15-19:00	Check-in/free time
19:00-21:30	BBQ - Dundee University Students' Association

Day 2: Wednesday, June 28 2017

09:30-10:00	Registration, coffee *Dalhousie Building foyer*
10:00-10:10	Introduction - Jeremy Singer and Rachel Menzies *Dalhousie Building, Main Lecture Theatre 4*
10:10-11:15	Keynote — Professor Mandy Chessell: Progressive Turmoil *Dalhousie Building, Main Lecture Theatre 4*
11:15-11:30	Coffee break *Dalhousie Building foyer*
11:30-13:00	Academic Writing with LaTeX *Labs 1 and 2, Queen Mother Building*
	IBM Bluemix IoT Hands-on Workshop (part 1) *Dalhousie Building, room 2F11*
	The Seven Hacks of Highly Effective PhD Students *Dalhousie Building, room 2F15*
	Ethical, Social, and Professional Concerns in the Information Age *Dalhousie Building, room 2G13*
13:00-14:00	Lunch, Poster and Demonstration Sessions (part 2) *Dalhousie Building Main Foyer*
14:00-15:30	IBM Bluemix IoT Hands-on Workshop (part 2) *Dalhousie Building, room 2F11*
	Thesis Statements (Years 3-4) *Dalhousie Building, room 2G13*
	Teaching 101 - CS Teaching Challenges *Dalhousie Building, room 2G03*
	Scientific Methods in Research *Dalhousie Building, Main Lecture Theatre 4*
15:30-16:00	Presentations, Prizes, Close *Dalhousie Building, Main Lecture Theatre 4*

Map of Dundee Unive

MAP

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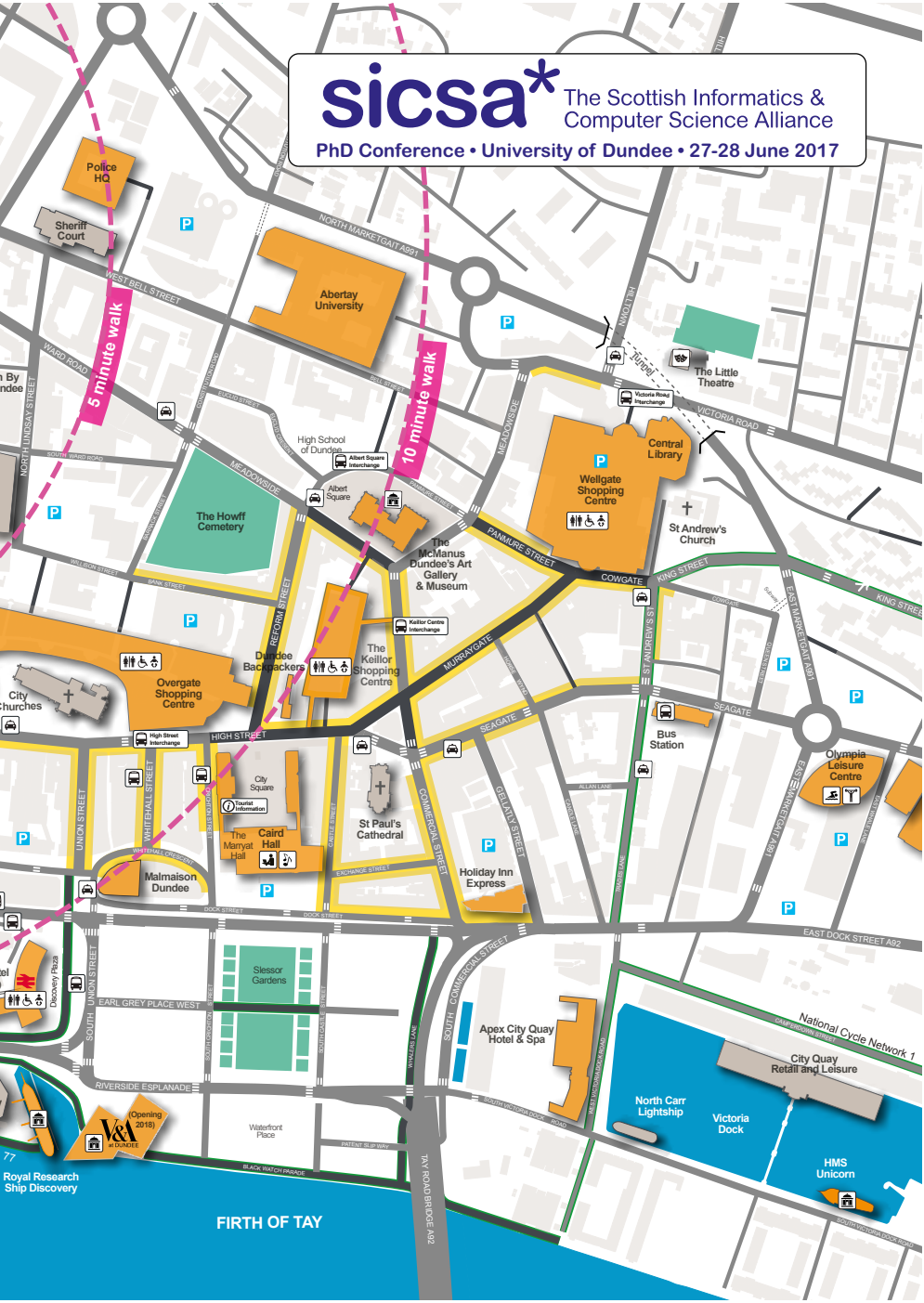

MAP

Workshop —Thesis Statements

Presenter:	Professor Iadh Ounis, Dr Craig Macdonald (University of Glasgow)
Organiser:	Graham McDonald, Stuart Mackie
RDF Domain:	A — Knowledge and Intellectual Abilities
Time:	Tuesday 27 June 2017, 10:30-12:00 (1st/2nd year) Wednesday 28 June 2017, 15:00-16:30 (3rd/4th year)
Location:	Dalhousie Building, room 2G13

Every PhD student should have a main point, a main idea or central message in their research. The argument(s) the student makes in their thesis should reflect and support this main idea. The sentence that captures the position on this main idea is the thesis statement. This session will discuss the important characteristics of the thesis statement and how the statement should be developed to be the focal point of a PhD thesis.

There will be 2 Effective Writing: Thesis Statement sessions during the PhD conference. 1 session will be for students currently in the first or second year of their PhD, while the other session will be for students currently in the third or fourth year of their PhD. The session activities will be tailored to the attendee's year of study and will focus on:

- The importance of the thesis statement
- Pitfalls to avoid when writing a thesis statement
- The points that the thesis statement should address

All students attending the session will be asked to submit a copy of their thesis statement and research questions. The anonymized statements will be used as examples for discussion in the workshop.

Session Outline

- Part 1 (30 minutes): Presentation on developing and refining your thesis statement by a senior academic, followed by Q&A.
- Part 2 (30 minutes): Group break-out activity: Each group will be given 2-3 anonymized thesis statements to review and comment on.
- Part 3 (30 minutes): Re-group discussion: The academic will lead a discussion of interesting points that were raised during the break-out activity.

Learning Outcomes

LO1: The student should have a good understanding of the importance and purpose of a thesis statement.
LO2: The student should be able to identify the the characteristics of an effective thesis statement.
LO3: The student should be able to develop a thesis statement that explicitly outlines the purpose or the point of their research and can be argued for throughout their thesis.

Workshop — Viva Survival

Presenter:	Dr Nia White (University of Abertay Dundee)
Organiser:	James Sutherland
RDF Domain:	D2 - Communication and Dissemination
Time:	Tuesday 27 June 2017, 10:30-12:00
Location:	Dalhousie Building, room 2F13

Dr Nia White (Head of Abertay University's Graduate School) will talk about how to prepare for your viva and what to expect, as well as providing context on why vivas are done this way in the UK and some information about the approaches used in other countries.

- What's the purpose of a Viva Voce?
- How does it work?
- What will you be asked?
- How to prepare
- Possible outcomes
- What comes next

Learning Outcomes

LO1. How to prepare
LO2. What to expect in the viva
LO3. What the possible outcomes are

Workshop — How to write a great paper and present it

Presenter:	Dr Edwin Brady (University of St Andrews)
Organiser:	Nadia Taou, Dejice Jacob
RDF Domain:	D2 - Communication and Dissemination, B1 - Personal Qualities
Time:	Tuesday 27 June 2017, 10:30-12:00
Location:	Dalhousie Building, Main Lecture Theatre 4

Every PhD student goes through the process of publishing papers about the research that they are doing. This is both for the purpose of obtaining relevant peer review and to consider the direction of their PhD. The process of writing up the research done so far in a conference paper format, where the arguments have to be cogent and succinct at the same time, is a balancing act. Receiving relevant feedback and peer review is also an important part of the process.

The session will focus on:

1. How to present the argument / results in the best possible way
2. The procedures required to submit a paper.
3. The relevance of peer review
4. Good practices to present the paper at a conference

Session Outline

- Part 1 (30 minutes + 20 minutes) : Presentation on effectively developing a coherent argument and arguing the case in a conference paper format. This will be followed by 10 minutes of Q&A

- Part 2 (20 minutes) : Group breakout activity where a selection of papers are analysed by students for good and bad traits. The papers selected will be along the lines of the SICSA themes to aid the discussion.

- Part 3 (20 minutes) : Feedback and discussion of the breakout session as well as general discussion

Learning Outcomes

LO1 : The student should have a good understanding of the general process and procedure of submitting papers for conferences
LO2: The student should be able to identify the characteristics of an effective paper
LO3: The student should be able to appreciate the relevance of robust feedback from peer review
LO4: The student should be able to learn to robustly present and defend the research submitted at a conference

Workshop — Academic Writing with LaTeX

Presenter: Dr Sasa Radomirovic (University of Dundee)
Organisers: Garreth Tigwell, Nadia Taou
RDF Domain: A — Knowledge and Intellectual Abilities
Time: Wednesday 28 June 2017, 11:30-13:00
Location: Labs 1 and 2, Queen Mother Building

Do you get frustrated formatting documents with Word? Do images randomly move? Is writing formulae a pain? Have you ever needed to quickly restyle a document? Then LaTeX is for you!

Content

- Part 1 (15 minutes): An introduction will be given by the facilitator explaining what LaTeX is and why you will benefit from using LaTeX.
- Part 2 (60 minutes): You will work through a LaTeX guide that will be made for the purposes of this workshop.
- Part 3 (15 minutes): The workshop will re-group for a Q & A session.

Learning Outcomes

LO1: You will develop a good understanding of the importance and purpose of basic LaTeX.
LO2: You will be able to carry out formatting tasks such as use of sections, lists, figures, tables and reference.
LO3: You will gain the skills to deal with LaTeX errors.

Additional Information

We have enough computers for each of you during this workshop, however, you can bring your own laptops if you prefer. If you want to bring your own laptop, then LaTeX must already be installed. We recommend installing the following software for each operating system:

Mac: TeXworks from tug.org/texworks and MacTeX from tug.org/mactex
Linux: TeXworks from tug.org/texworks and TeX Live from tug.org/texlive
Windows: TeXworks from tug.org/texworks and MiKTeX from miktex.org/download

Workshop — IBM Bluemix IoT Hands-on Workshop

Presenter:	Ross Cruikshank (IBM)
Organiser:	Dejice Jacob (University of Glasgow)
RDF Domain:	A1 (Knowledge base) A2 (Cognitive abilities) D1 (Working with others)
Time:	Wednesday 28 June 2017, 11:30-13:00 (part 1) Wednesday 28 June 2017, 14:00-15:30 (part 2)
Location:	Dalhousie Building, room 2F11

Note: This workshop is in two parts. It is mandatory that all participants for this workshop attend both sessions.

IBM Bluemix allows developers to quickly and easily create, deploy and manage applications in the cloud. Bluemix is an implementation of IBM's Open Cloud Architecture. This workshop will provide detailed introduction to Bluemix, and facilitate hands-on development activities with IoT devices (provided by IBM) for data acquisition and analytics. Bluemix supports a wide variety of runtimes and services including Node.js, Python, Ruby and Java.

Session Outline

- Part 1 (45 minutes): Ross presents the IBM Bluemix technology platform, discussing its benefits and opportunities.
- Part 2 (45 minutes): Participants split up into teams, working with custom IoT sensors, single-board computers and novel data streams.
- Part 3 (45 minutes): Teams continue working on their mini-projects.
- Part 4 (45 minutes): The workshop will re-group for a 'show-and-tell' live demo session.

Learning Outcomes

LO1: You will work with others to develop online data processing pipelines for IoT sensor devices.
LO2: You will gain familiarity with the BlueMix platform-as-a-service cloud ecosystem.
LO3: You will analyse data streams using various standard techniques and metrics.
LO4: You will assess the relative merits of high-level component-based cloud engineering solutions.

Additional Information

To participate in this interactive workshop, please bring a laptop with Eduroam wifi access. Any OS is appropriate.

Workshop — The Seven Hacks of Highly Effective PhD Students

Presenter:	Dr Jeremy Singer (University of Glasgow)
Organiser:	Dejice Jacob (University of Glasgow)
RDF Domain:	A1 (Knowledge base) A2 (Cognitive abilities) B2 (Self management)
Time:	Wednesday 28 June 2017, 11:30-13:00
Location:	Dalhousie Building, room 2F15

You are a Computer Scientist. You have access to powerful tools and techniques that can make your research activities much more effective and time-efficient. Use the tools, Luke! In this interactive workshop, we will outline common practical problems that face PhD students, and show how to use Unix tools to solve these problems. Awk, Bash, Grep and Gnuplot should be among your best friends!

Session Outline

- Part 1 (30 minutes): Motivation for scripting and using Unix system tools. A small investment in learning time pays off with massive productivity gains throughout your research career. Then the facilitator will set seven 'challenges' and outline possible system tools that students could use to tackle these challenges.

- Part 2 (30 minutes): Participants team up into groups to tackle one or more of the seven short challenges.

- Part 3 (30 minutes): The workshop will re-group for a 'show-and-tell' interactive feedback session.

Learning Outcomes

LO1: You will be able to select appropriate system tools for common generic research tasks.
LO2: You will gain confidence in applying standard system tools to research tasks.
LO3: You will appraise the quality of results generated by various combinations of system tools.
LO4: You will assess the relative merits of accessible tutorial information about various system tools.

Additional Information

To participate in this interactive workshop, please bring a laptop with eduroam wifi access. Your laptop should be capable of running Unix command-line applications — so Linux or macOS are fine. Windows can be supported via Cygwin or Windows Subsystem for Linux.

Workshop — Ethical, Social, and Professional Concerns in the Information Age

Presenter:	Professor Nick Taylor (Heriot-Watt University)
Organiser:	Boris Mocialov
RDF Domain:	C1 Professional Conduct
Time:	Wednesday 28 June 2017, 11:30-13:00
Location:	Dalhousie Building, room 2G13

One of the traits of the age of the information is the fast-paced technological advancements, whether to support everyday life, entertain, or protect us. Today's society would not be able to exist without the systems that appear and thrive around us. Reliability and quality of service are the crucial aspects of these systems that we mostly do not question and take for granted. Despite the immense confidence we have in the services that these systems provide, it is worth asking how much thought goes into issues not directly related to the development of these new technologies? In the workshop we will explore these questions from the perspective of different technologies that are either already well-established in our society or are on the horizon and will soon be introduced into our everyday lives.

Workshop structure

1. Presentation (10-15 minutes)
   * Introduction to the Workshop
   * Introduction to the ethical, social, and professional issues in CS
   * Agenda/Plan
   * Directional questions made visible while students discuss their topics
2. Let students discuss distributed abstracts/topics. One abstract per group from the following topics: (30-45 min)
   * Robotic Warfare
   * AI Filtering of Social Media Postings
   * Contemporary Socialisation
   * Artificial Companionship and Sex
   * Cyborgs and Bionic People
   * Nanotechnology
   * Personal Filter Bubbles
   * Public Safety vs Individual Privacy
   * Automated Profiling
   * Robotic Personhood
3. Groups present their findings (20 min)
4. Common theme? Any other ideas? Closing (10 min)
   * Publishable white paper?

Learning Outcomes

LO1: Students will be able to identify all levels of stakeholders and think critically about implications technology may have on the stakeholders
LO2: Make use of CS techniques to think about ethical issues

Workshop — Teaching 101 — CS Teaching Challenges

Presenters:	Professor Quintin Cutts (University of Glasgow) Dr Karen Petrie (University of Dundee)
Organisers:	Oluwafemi Olukoya, Oseghale Igene
RDF Domain:	D3 - Engagement and Impact
Time:	Wednesday 28 June 2017, 14:00-15:30
Location:	Dalhousie Building, room 2G03

(When the Going Gets Tough, the Tough Get Going)

Do you want to enhance your CS teaching skills? Are you considering taking a job as an academic after your Ph.D.? Do you find teaching programming challenging? Are you a GTA or a lab demonstrator? Then, Teaching 101 is the workshop for you!

During this workshop, you will learn the rudiments of learning theories and how they drive successful CS teaching. These theories help to highlight flaws in our typical teaching methods. This session will focus on:

- The importance of learning theories and how it applies to CS Teaching
- Understanding cognitive load theory and its implications
- Challenges of CS Teaching and successful innovative teaching strategies

Session Outline

- Part 1 (45 minutes): Learning Theories - Insight into some key learning theories that can transform to teaching success in the lecture theater or the lab. This session also involves breaking out into groups to explore improved techniques collectively.
- Part 2 (45 minutes): Breakout Session - A practical workshop that follows on from the learning theory segment to practice the ideas. Breakout into groups to consider parts of the curriculum that you may find difficult to teach and come up with innovative ways for doing so by thinking out of the box (or perhaps, as if there were no boxes!). There will be chocolate involved.
- Part 3: The workshop will re-group for a Q & A session if time permits

Learning Outcomes

LO1: Identify typical misunderstandings often encountered in CS teaching
LO2: Explore mindset - how students and teachers understand to learn and intelligence generally
LO3: Understand cognitive load theory - evidence-based understanding of how learning takes place

Workshop — Scientific Methods in Research

Presenter:	Professor Alan Bundy (University of Edinburgh)
Organiser:	Gibrail Islam
RDF Domain:	A — Knowledge and Intellectual Abilities
Time:	Wednesday 28 June 2017, 14:00-15:30
Location:	Dalhousie Building, Main Lecture Theatre 4

We will survey and summarise the typical methodologies used in computing research, including both theoretical and experimental methodologies. Our emphasis will be on best practice, ensuring the validity and highest quality of the results of your research. We will emphasise the importance of formulating precise and evaluable hypotheses or claims, making it clear to your readers what claims you are and are not making, then providing an evaluation that supports (or perhaps refutes) your claims. We will warn you about some of the most common pitfalls in computing research, so you avoid or recover from them.

Learning Outcomes

LO1: A good understanding of different research methods and their application in computing science.
LO2: The student should be able to select a particular research method confidently according to their available circumstances/scenario.

Accessing WiFi at the University of Dundee

The University of Dundee has both Eduroam wireless networking (for anyone with an account from a participating educational institution) and free public WiFi via Sky's The-Cloud service.

How to connect

If you've already set-up a Sky account for _TheCloud on the device you're bringing to UoD, it should auto-connect on the day you arrive. If it doesn't, search and select _The-Cloud from the list of wifi networks when you get here and if asked, give your Sky credentials.

If you'd like to create your account in advance, you can do that at:
https://service.thecloud.net/service-platform/login/registration/

First time connecting?

1. Search for and select _TheCloud wifi network on your laptop, tablet or mobile phone.
2. Register for a free account with Sky in the web browser that appears.
If a web browser doesn't automatically appear, start up the web browser yourself and try to go to any webpage; TheCloud landing page should then show up.
3. You should now be connected to TheCloud wifi
You can use the Sky login you've just created anywhere else you see _TheCloud appear as an available network from now on!

If you're still having trouble, please contact the Sky support team in the first instance.

Each year's SICSA conference is organised by a committee of volunteers drawn from across the Scottish Universities. If you're interested in joining next year's committee, email admin@sicsa.ac.uk for more information, or ask any of the current committee, identifiable by the SICSA T-shirts.

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