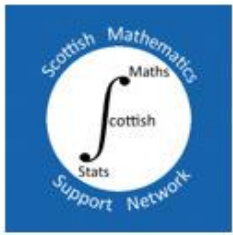


CELT-MSOR 2022



Abertay
University

Abertay University, Dundee, UK
1st – 2nd September 2022



Conference Programme
[@cetl_msor2022](https://twitter.com/cetl_msor2022)

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Welcome

On behalf of the Planning Committee and Abertay University, we warmly welcome you to the 2022 CETL-MSOR conference in the city of Dundee. We hope that you enjoy your stay here in the City of Discovery, and that you are able to explore the city and the surrounding areas to see what we have to offer in your time here.

This will be the first opportunity for an in-person conference since the beginning of the Covid-19 pandemic and we are thrilled that it is Abertay that has the opportunity to host such an important conference. The conference themes this year of *Digital accessibility*, *Modes of delivery in Mathematical Sciences*, *Widening access* and *Student engagement* are all topics that academics have been discussing since the beginning of the first lockdown. As we make changes to how we deliver our courses with moves towards more blended approaches, sharing best practise amongst the academic community will only serve to improve the students experience and we are all excited to see what innovative solutions have been implemented across mathematics teaching and student support.

We have a very exciting programme of talks that will allow members to reflect upon and celebrate our past accomplishments and look forwards towards the future of our industry.

We hope that you will all enjoy this conference and your visit to Dundee.

Warm regards
CELT-MSOR 2022



Join the Conversation
#cetl_msor2022

We will be active on social media throughout the conference. We encourage you to share stories, photographs and comments.



Slessor Gardens, Dundee
Image courtesy of Dundee - One City, Many Discoveries

Conference Programme

Day 1 - Thursday 1st September 2022

09:30	Room – Events Space, Kydd Building Registration – Tea, Coffee and Biscuits
10:15	Room – 1517/2517 Lecture Theatre Welcome <i>Prof Liz Bacon, Abertay University</i>

10:30	Parallel Session I			
	Room – 1009 Chair: Anne Savage, Email	Room - 1025 Chair: Kean Lee Kang, Email	Room - 1026 Chair: Andrew Minto, Email	Room – 1006 Chair: Ahmed Abdullah, Email
	WORKSHOP: Using Word to write an accessible mathematical document. <i>Emma Cliffe</i>	Incentivisation and its effect on engagement and student performance. <i>Amanda Shaker, Christopher Brignell and Mathew Pugh</i>	The student perspective of Engineering maths teaching and embedded maths support. <i>Alison Loddick and Stephen Hillyard</i>	It's so unfair! - Can we help students to feel less resentful of group projects and presentations? <i>Laurence Shaw</i>
		Questions & Transition 10:45-10:50		
		Barriers to engagement: The student perspective of Mathematics and Statistics Support. <i>Holly Gilbert</i>	What can online platforms tell us about student engagement and understanding? <i>Lois Rollings</i>	An Updated Show of Hands. <i>Helen Berrington, Eleftherios Kastis and Anna Karapiperi</i>
	Questions & Transition 11:05-11:10			
	Student Video Curation. <i>Nick Sharples and Snezana Lawrence</i>	Test, refresh, practise: how study skills can increase your maths confidence. <i>Hope Thackray and Pete Hart</i>	Approaches to Enhancing outreach. <i>Andrew Neate and Sofya Lyakhova</i>	CRaP in Assessments. <i>Alan Walker</i>
Questions & Transition 11:25-11:30				

Parallel Session II				
11:35	Room – 1009 Chair: Wan Mekwi, Email	Room - 1025 Chair: Ruth Douglas, Email	Room - 1026 Chair: Ewan Russell, Email	Room - 1006 Chair: Shazia Ahmed, Email
	Multi-perspective analysis of needs for the development of digital blended learning for mathematics and mathematics related degree programmes in Germany. <i>Mirko Schürmann, Michael Liebendörfer, Andreas Eichler and Niclas Schaper</i>	Improving student engagement through employability themed group work. <i>Simon Fairfax</i>	What do our student staff know about supporting peers with accessibility requirements? <i>Ruth Hand</i>	Accessibility for LaTeX teaching materials. <i>Morgiane Richard, Alice Alcaras, Murilo da Silva Baptista, Matthew Collinson, Benjamin Martin, Nir Oren, Dorian Stoyanov and Hubert Szynglarewicz</i>
Questions & Transition 11:50-11:55				
	Widening participation lead by mathematics students. <i>Snezana Lawrence and Alison Megeney</i>	Student engagement with mathematics and statistics support: some student perspectives. <i>Farhana Gokhool</i>	Student engagement and statistical anxiety. <i>Carol Calvert, Di Haigney, Emma Steele and Rachel Hilliam</i>	Mathematics Anxiety in Undergraduate Business Studies Students. <i>Orla McCullagh, Maria Ryan and Olivia Fitzmaurice</i>
Questions & Transition 12:10-12:15				
	How to train more excellent mathematicians? <i>Chris Brignell</i>	Students as Partners – working with students to widen engagement with skills support. <i>Shirley John</i>	Statistics Support: The past, the present and the future. <i>Alun Owen</i>	Evaluating strategies used to reduce statistics anxiety. <i>Ellen Marshall, Amanda Shaker, Anna Riach and Di Haigney</i>
Questions & Transition 12:30-12:35				
12:40	Room - 1007, Old College Lunch			

13:50	Keynote 1			
	Room – 1517/2517 Lecture Theatre			
'A problem shared is a problem halved: moving forward with mathematics and mathematics support?' <i>Ciarán Mac an Bhaird, Maynooth University, Co. Kildare Rep of Ireland</i>				

14:50	Parallel Session III																														
	Room – 1009 Chair: Emma Coutts, Email	Room - 1025 Chair: Shazia Ahmed, Email	Room - 1026 Chair: Ahmed Abdullah, Email	Room - 1006 Chair: Kean Lee Kang, Email																											
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15:55	Room - 1007 Old College Tea and Coffee
16:15	Room – 1517/2517 Lecture Theatre Panel Session: "Post-Pandemic Maths and Stats Teaching and Support: Lessons Learned and Planning for the Future". Co-Chairs: Ciarán Mac an Bhaird (Maynooth University) and Alison Reddy (University of Illinois)
17:15	Room – 1006 sigma Network Annual General Meeting
17:30	End of Day 1
18:45	Conference Dinner and Awards Venue: Discovery Point



Royal Research Ship Discovery, Dundee
Image courtesy of Dundee & Angus
Convention Bureau

Day 2 - Friday 2nd September 2022

08:45	Room – Events Space, Kydd Building Registration			
09:00	Keynote 2			
	Room – 1517/2517 Lecture Theatre Data Science: transformation or transition? Rachel Hilliam, <i>the Open University</i>			
10:00	Room – 1007, Old College Tea and Coffee			
10:20	Parallel Session IV			
	Room – 1009 Chair: Craig Stark, Email	Room - 1025 Chair: Kean Lee Kang, Email	Room - 1026 Chair: Anne Savage, Email	Room - 1006 Chair: Andrew Minto, Email
	Adapting successful online activities for in-person classes - a new challenge. <i>Ewan Russell</i>	The impact of in-person and online maths and stats support facilities as social learning spaces on engagement. <i>Mark Hodds</i>	Using the concept of 'Statistical literacy' as a guiding heuristic to create a learning experience. <i>Adrian Bromage</i>	Embedding Fundamental Data Skills for Students in Non-cognate Subject Areas. <i>Jordan Brennan, Emily Rodden and Liam Naughton</i>
	Questions & Transition 10:35-10:40			
	Family Fortunes <i>Alison Loddick</i>	Exploring Undergraduates' Views related to Mathematics Service Teachers' Knowledge. <i>Dan O'Brien</i>	A Modern Twist on Traditional Mathematics Lectures. <i>Kristian Evans</i>	Clinical Trials with the Q-Step Model: Lessons Learned from the Ground. <i>Margaret Macdougall</i>
Questions & Transition 10:55-11:00				

11:10	Lightning Talks
	Room – 1517 Lecture Theatre Chair: Morgiane Richard, Email
	Maths Week Scotland <i>Katie Oldfield</i>
	Spinning a yarn about... Maths Week Scotland <i>Shazia Ahmed</i>
	Transition to Glasgow: Logic, Reasoning and Problem Solving <i>Ruth Douglas</i>
	Correct for the wrong reason: Why we should know more about Mathematical Common Student Errors in e-Assessment questions <i>Indunil Sikurajapathi, Karen Henderson and Rhys Gwynllyw</i>
	Winning Scotland <i>Grant Small and Richard Orr</i>
	Special conference edition of MSOR Connections <i>Alun Owen</i>

11:50	Parallel Session V			
	Room – 1009 Chair: Anne Savage, Email	Room - 1025 Chair: Shazia Ahmed, Email	Room - 1026 Chair: Wan Mekwi, Email	Room - 1006 Chair: Emma Coutts, Email
	WORKSHOP: Using (R) Markdown to write an accessible mathematical document <i>Emma Cliffe</i>	Factors which align with high failure rates in mathematics. <i>Leanne Rylands</i>	Statistics Support and anxiety explored. <i>Ellen Marshall, Anna Riach and Amanda Shaker</i>	Can the use of digital badges enhance maths support? <i>Chrystalla Ferrier</i>
	Questions Transition 12:05-12:10			
		From Individual Support to Small-Group Problem-Solving: Encouraging Speech Online. <i>Abi Kirk</i>	Student Engagement with Maths and Stats Support. <i>Alexandra Shukie, Ellen Marshall, Vijay Teeluck and Sarah Woodall</i>	Raising Awareness around Dyscalculia in a Technological University. <i>Deirdre Casey, Julie Crowley and Ruth Murphy</i>
	Questions & Transition 12:25-12:30			
		<i>Authentic by design: developing mathematicians for the talent economy.</i> <i>Alison Megeney, Matthew Jones and Brendan Masterson</i>	What does ‘partnership’ mean within this conference community? <i>Deirdre Casey, William Carey, Vesna Perisic, Ann Smith and Isabella Fairclough</i>	Optimising the blend of in-person and online mathematics support from the student perspective. <i>Don Shearman, Anthony Cronin, Jim Pettigrew, Leanne Rylands and Claire Mullen</i>
Questions & Transition 12:45-12:50				
12:55	Room – 1007, Old College Lunch			

14:00	Parallel Session VI			
	Room – 1009 Chair: Craig Stark, Email	Room - 1025 Chair: Andrew Minto, Email	Room - 1026 Chair: Kean Lee Kang, Email	Room - 1006 Chair: Anne Savage, Email
	Digital mathematics support for prehonours students with a view towards hybrid. <i>Konstantina Zerva and David Quinn</i>	The use of Tablet PCs in mathematics learning and teaching. <i>Alena Haddley</i>	Data & AI Driven Approaches for Predicting Student Progression. <i>Liam Naughton, Abigail Parkes, Jordan Brennan and Emily Rodden</i>	100s of questions offered to 1000s of students – I like them NUMBAS <i>Ed Southwood, Ben McGovern and Ruth Hand</i>
	Questions and Transition 14:15-14:20			
	Using online STACK assessment to teach complex analysis: a prototype course design? <i>Richard Gratwick and Steven O'Hagan</i>	Assessment as a barrier to inclusion. <i>Tony Mann</i>	Widening Access to HE using in house mathematics equivalence assessments. <i>Abigail Parkes, Liam Naughton, Jordan Brennan and Emily Rodden</i>	A case-study using the open-source Chirun tool to build accessible, flexible learning materials for a mathematical programming module <i>Chris Graham</i>
	Questions and Transition 14:35-14:40			
	Initial Findings from a Systematic Scoping Literature Review of the Impact and Evaluation of Mathematics and Statistics Support in Higher Education. <i>Claire Mullen, Emma Howard and Anthony Cronin</i>	Online distance learning in Data Analytics – benefits, challenges, and suggestions. <i>Eilidh Jack, Colette Mair and Craig Alexander</i>	Making Sessions More Interactive: A Case Study on the use of Interactive Polls within Synchronous Online Statistics Workshops. <i>Monica-Cristiana Hess and Noel Parnis</i>	
	Questions and Transition 14:55-15:00			

15:05	Keynote 3
	Room – 1517/2517 Lecture Theatre Plenary Lecture: Books Never Penn'd <i>Joe Kyle, University of Birmingham</i>
15:35	Close of Conference

Presentation Abstracts

[View presentation abstracts](#) (opens as a pdf document)



Angus, Scotland

*Image courtesy of Dundee & Angus Convention Bureau,
Photo Credit Kenneth Malcolm Photography*

Speakers

We are honoured to have the following speakers confirmed for CETL-MSOR 2022



Liz Bacon

Professor Liz Bacon joined Abertay University as Vice-Principal and Deputy Vice-Chancellor (Academic) in 2018, becoming Principal and Vice-Chancellor in May 2022.

An international researcher in computer science, Professor Bacon is a worldwide speaker on a range of topics, including preparing staff and students for the fourth industrial revolution's impact on teaching, learning and work, and improving diversity and participation in STEM, particularly among women and people from disadvantaged backgrounds.

A former President of BCS – The Chartered Institute for IT, Professor Bacon is also current President of EQANIE (European Quality Assurance Network for Informatics Education) and a past Chair of the BCS Academy of Computing and the CPHC (Council of Professors and Heads of Computing) national committee. Professor Bacon is a National Teaching Fellow, a Principal Fellow of the Higher Education Academy, a Chartered Engineer, Chartered Scientist and a Chartered IT Professional.

Professor Bacon's research interests include computing policy, smart systems, security and technology enhanced learning. She is also a Trustee of Bletchley Park Trust. Working closely with politicians, professional bodies and many other organisations, she has also driven forward the agenda to address the global shortage of skills in the IT industry, resulting in a range of high-profile reports.

Throughout her career, she has worked to improve quality and standards in higher education, including a focus on degree accreditation standards in computer science both in the UK and internationally. She is passionate about the development of her discipline and is keen to inspire more people to choose computing as a career, with a particular commitment to supporting women in entering, and progressing in, the profession.



Ciarán Mac an Bhaird

Ciarán Mac an Bhaird is an Assistant Professor and Director of the Mathematics Support Centre at Maynooth University. He was appointed to his roles in the Department of Mathematics and Statistics at Maynooth University in 2007. He has received multiple awards in recognition of his teaching and support of students, recently including a national 2016 Teaching Hero Award, an inaugural Maynooth University Teaching Award in 2018 and a History in Mathematics Education Award in 2021 from the British Society for the History of Mathematics (BSHM). He was a founding committee member of the Irish Mathematics Learning Support Network and is Education Officer on the BSHM Council. Most of his research focus is on mathematics education and in the history of mathematics, but he still dabbles occasionally in Algebraic Number Theory.

<https://www.maynoothuniversity.ie/people/ciar-n-mac-bhaird>

<http://supportcentre.maths.nuim.ie/>



Rachel Hilliam

Rachel is a Professor of Statistics at The Open University where she has held various leadership roles. In 2019 whilst Director of Teaching for Mathematics and Statistics, she introduced a new degree in Data Science which had over 400 students across the UK in its first year. She is an expert in teaching statistics at higher education level to adult students who do not necessarily have standard university entrance qualifications.

Her learning and teaching interests include supporting students who are studying statistics as part of a non-mathematical qualification and exploring the different types of statistical anxieties which such students can exhibit. She has a strong interest in supporting colleagues' teaching activities and has delivered the statistics session for the national induction course organised by the IMA and was one of the founders of the teaching and learning mathematics online, TALMO, initiative.

Rachel is currently Vice-President of the RSS, leading on its Professional Affairs activities. Since 2020 she has been working with other professional societies, government organisations and industry to explore the professionalisation and accreditation of Data Scientists, a project of national importance, included in the Government's data strategy. This work resulted in the formation of *The Alliance for Data Science Professionals*, which Rachel chairs. This alliance is creating industry-wide professional standards and a certification process that will enable both individuals and education providers to gain recognition based on skills and knowledge within Data Science.

<https://www.open.ac.uk/people/rmh285>



Joe Kyle

Formerly Director of Undergraduate Studies for the School of Mathematics at the University of Birmingham, Dr. Joe Kyle then acted as an Advisor in Mathematics to the (then) newly established STEM Education Centre at that institution. He has also spent time as an Academic Associate in Mathematics, Statistics and Operational Research (MSOR) with the Higher Education Academy. For many years, he was Editor in Chief for the Higher Education Academy Journal MSOR Connections and sat on the Editorial Board of the Oxford University Press Journal Teaching Mathematics and its Applications. A pure mathematician by background, Joe has also worked for the Open University and engaged in a number of mathematical education projects with colleagues there.

Joe has, in partnership with Peter Kahn, edited *Effective Learning and Teaching in Mathematics and its Applications*. In collaboration with many sigma colleagues he is also a co-editor of *Transitions in Undergraduate Mathematics Education*. Joe is regularly invited to contribute to national and international conferences and regularly delivers (with others) workshops on teaching and learning for new and experienced UK academics. Current interests include problem-solving in MSOR, flexible learning, and working with students as partners.

Conference Venue

Venue: Abertay University, Bell St, Dundee DD1 1HG

[Location on Google Maps](#)

Abertay University is one of two public universities in the city of Dundee, Scotland. In 1872, Sir David Baxter, 1st Baronet of Kilmarnock, left a bequest for the establishment of a mechanics' institute in Dundee and the Dundee Institute of Technology was formed in 1888. Its journey of over 130 years continues to equip the future workforce of the world. [Explore more about our heritage.](#)

Levels and rooms numbers:

- If a room number begins with 1 the room is on level 1, if a room number begins with 2 the room is on level 2 and so on.
- If the second digit of the room number is 5 (for example 3530) the room will be within the Kydd Building.
- If the second digit is 0 (for example 3022) the room will be situated within the Old College Building.
- Rooms beginning with G are situated in the Graham Building.

The CETL-MSOR Conference will take place in 1517/2517 Lecture Theatre located on Level 1 (entry doors on level 1 and level 2).

A secure luggage room will be available for delegates wishing to store their luggage during the conference. This is Room 1501.1 located on Level 1 near to the reception desk.



Social Evening – Dinner

Venue: Discovery Point & RRS Discovery, Discovery Quay, Dundee, DD1 4XA

[Location on Google Maps](#)

This is a pre-booked ticketed event

Enjoy an evening at Discovery Point & RRS Discovery on the evening of Thursday 1 September 2022.

Begin your evening with the opportunity to explore aboard the iconic ship 'RRS Discovery' and feel the sense of history as you tour the decks and visit the museum exhibitions in Discovery Point. Followed by dinner served in the function suite in Discovery Point which offers a fantastic view of RRS Discovery, the V&A Dundee and over the River Tay towards the rolling hills of Fife.



History of RRS Discovery & Discovery Point - Built in Dundee in 1901, RRS Discovery was designed specifically for the first scientific research expedition to Antarctica. Dundee was a well-known whaling port with a ship-building industry renowned for constructing vessels strong enough to withstand the ice of the Arctic whaling grounds, so when it came to designing a research ship for Antarctic exploration - Dundee was the obvious choice.

Discovery Point is home to this iconic ship and the museum and galleries that tell her stories. From her maiden voyage in 1901 to Antarctica with Captain Scott and Ernest Shackleton, during the 'Heroic Age of Exploration' and through the years on various ground-breaking expeditions across the world.



In 1986 a new home was offered by Dundee Heritage Trust and on 3 April Discovery changed hands from the Maritime Trust to Dundee Heritage Trust. Discovery was welcomed home by thousands who lined the shores of the River Tay and was berthed at Victoria Dock. Today, over 115 years after leaving Dundee, Discovery sits proudly as the centrepiece of the five star Discovery Point Visitor Centre.

Dundee Heritage Trust is also responsible for Verdant Works, one of the nation's most important textile museums. Both sites are accredited with Recognised Collections of National Significance, 5-star rated Visitor Attractions with VisitScotland and have won numerous awards.

The purpose of Dundee Heritage Trust is 'The guardianship, preservation, and portrayal of Dundee's Heritage in ways that educate, inspire and enlighten current and future generations.'

Accessibility

There is a level entrance to Discovery Point and all the museum galleries are on the ground floor. A lift to the first floor function suite is available. RRS Discovery is an historic ship and the nature of her construction means that full disabled access is not possible. There is a ramp that can be placed at the top of the gangway that provides access to the main deck. Access to the Bridge or the lower decks is by narrow stairs. Once below deck there are many changes in level and more stairs. On the Quayside before you board RRS Discovery is a film show of a tour of the ship, above and below decks. This film has both an audio commentary and written subtitles on the screen.

Our Sustainability Pledge

We recognise the importance of taking care of the environment and the environmental impact of hosting a conference.

[Read our Sustainability Pledge](#) and what measures we have adopted for CETL-MSOR 2022.

One of the elements of our pledge is that we will not provide delegate bags and encourage you to bring your own.

In lieu of conference delegate bags, a charitable donation of equivalent monetary value will be made to a local charity working to encourage numeracy in young children.

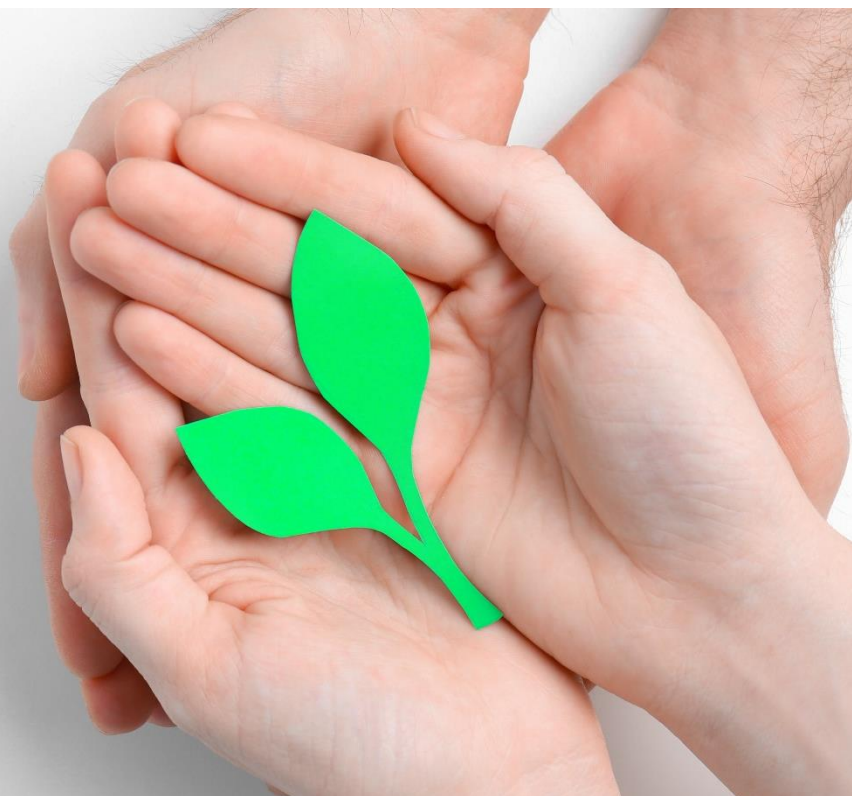


**BUILDING CONFIDENCE AND
RESILIENCE IN YOUNG PEOPLE**

Winning Scotland support teachers across Scotland to develop and embed a growth mindset culture in the classroom – with a strong emphasis on maths. From speaking to and surveying hundreds of teachers and thousands of pupils around the country, we have learned that a significant number of children in Scotland are uncomfortable doing maths.

That's why 'mindset maths' is our most popular professional learning programme. Developed in partnership with Dr Jo Boaler of Stanford University, our mindset in numeracy programmes support education professionals to understand and tackle the challenges their colleagues and pupils encounter in maths.

Check out www.winningscotland.org to learn more.



Local Information

Visitor Information Centre

Located within the V&A Dundee, Welcome Desk, 1 Riverside Esplanade, Dundee (8 mins walk from conference venue, Apex City Quay Hotel)

- Opening hours: 10am – 5pm (closed Tuesdays and Wednesdays)
Tel: +44 (0)1382 527 527
Email: Dundee@visitscotland.com
- [Dundee City Centre Map](#)
- [Explore Dundee](#) Places to eat, shop, visit and local information
- [Explore Angus](#) Explore and extend your stay

Getting Around

- View [Active Travel](#), Dundee's active travel routes in and around the city have been developed over the last few years with a key objective to encourage active travel through walking, cycling and public transport, and deploy sustainable alternatives to decarbonise transport.
- **Electric Cars - Community Car Share**
 - Community car share - for more information visit [Co-Wheels Car Club](#)
 - Electric charging posts, visit <https://www.drivedundeeelectric.co.uk/map-of-charging-posts>
- **Cycling**
 - [Embark Dundee](#) - e-bike sharing is an electric bike hire scheme with over 150 bikes, and is easy and quick to sign up. View list of [bike stations](#)
 - [Electric Bikes Scotland](#) - wide range of bikes available for hire
 - [Spokes Cycles](#) - bike hire
 - [Green Circular Cycle Route](#) - over 25 miles through the city from the country park at Camperdown to the water front at Broughty Ferry to the city centre.
- **Public Transport**
 - **Edinburgh Airport Xpress**
Xplore More provides coach travel between Edinburgh Airport and Dundee. The Edinburgh Airport Xpress service runs non-stop between Dundee City Centre and Edinburgh Airport. Pick-up and drop-off place is just opposite entrance to Malmaison (in front of car park). For more information on how to book, visit [Xplore Dundee](#).
 - **Ember – Electric Coach Service**
Fast, comfortable travel by electric bus. Frequent services between Edinburgh, Dundee, Perth and Kinross, and their new Glasgow/Dundee service. Low fares, live tracking and zero emissions.
 - For **Edinburgh Airport**, they stop at Ingliston Park & Ride which is right next to the airport. From Ingliston Park & Ride you can take a two minute tram to the airport, a five minute bus or even walk in around 15 minutes. Coaches are wheelchair accessible

– you can reserve your space at the time of booking. View their timetable, book tickets, view live map and FAQs on the [Ember.to website](#).

- For **Glasgow Buchanan Street Bus Station**, pick-up point is outside Malmaison Dundee, drop-off point is at Dundee Train Station. Coach will stop at Glasgow Buchanan Street Bus Station which has frequent connections to Glasgow Airport – intermediate stops will include Stirling, Dunblane, Cumbernauld and Perth. Coaches are wheelchair accessible – you can reserve your space at the time of booking. View their timetable, book tickets, view live map and FAQs on the [Ember.to website](#).

- **Taxi service:**

- City Cabs - Tel: 01382 450 450
- Tele Taxis - Tel: 01382 825 825 | 01382 889 333 | [Book Tele Taxis online](#)
- Dundee City Taxis - Tel: 01382 20 40 60 | [Book Dundee City Taxis online](#)

Walking Tours in Dundee

There is a wide range of tours, trails and interesting walks on our [Tours & Trails in Dundee](#) website including:

- **Riverside Walk** - Up to 3 miles long (5km), this walkway and cycleway runs parallel to Riverside Drive, connecting between [Discovery Point](#) and [Riverside Nature Park](#). The Riverside Nature Park, created from a landfill site has been planted to provide wildlife habitats and provides views over the River Tay and Invergowrie Bay. [View the trail leaflet here](#).
- **Discovery Walk** - Dundee has been home to an amazing variety of people who have contributed to science and society in many important and exciting ways helping make Dundee and the wider world a better place. The walk situated at [Slessor Gardens](#) celebrates Dundee's gifts to the world given by the many extraordinary people who have lived and worked in the city. A series of plaques explaining their achievements are set into the walkway.
- **Dundee Discoveries Past & Present**. Dundee is celebrated internationally for its pioneering work in medical sciences, but the city has many more amazing stories of innovation and discovery. Three walking tours which introduce you to some of these stories.
- Visit **Camperdown Country Park**, the largest public park in Dundee, situated just 3 miles from Dundee city centre, off Kingsway West (A90).
- **The must-do activity** is to see the view from the top of [Dundee Law](#), 572 feet above sea level, easy to moderate walking routes, 1.5 hour round trip from city centre.

Inclusive Dundee

- [AccessAble](#) - for detailed route guides from Dundee Station to Slessor Gardens, The McManus, V&A Dundee and Verdant Works and detailed accessibility guides of venues
- [Changing Places Toilets](#) - view the [Changing Places Toilet Map](#) for all locations and important information, such as opening times and facilities
- [Euan's Guide](#) - for disabled access reviews of venues and locations and more information about accessibility
- [Shopmobility](#) - is a scheme that loans out mobility scooters, power and manual wheelchairs

- Download [Euan's Guide - Dundee & Angus Accessible Highlights Guide](#)

Emergency & Non-Emergency Contacts

Should anyone require assistance during their stay, please contact the following:

- Visitor Information Centre: +44 (0)1382 527 527
- Pharmacist: Boots Chemist: +44 (0) 1382 221 756
- Shopmobility (hire of mobility equipment): +44 (0)1382 228 525
- Doctors (NHS 24): 111 (non-emergency medical number)
- Ninewells Hospital & Medical School: +44 (0)1382 660 111
- Dundee Dental Hospital: +44 (0)1382 660 111 (daytime)
- Police, Fire Rescue & Ambulance: 999
- Police: 101 (non-emergency number)



Oor Wullie Bronze Statue outside The McManus: Dundee's Art Gallery & Museum
Image courtesy of Dundee - One City, Many Discoveries

Acknowledgments

Organised by colleagues in the SMSN - Scottish Mathematics Support Network, IMLSN - Irish Mathematics Learning Support Network and SIGMA - Maths and Stats support for England and Wales

Local Organising Committee

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Craig Stark	Abertay University
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Andrew Minto	Abertay University
Sarah Cottin	Abertay University
Jonathan Glen	Abertay University
Ahmed Abdullah	Abertay University

With support from Abertay University Events Team and Dundee & Angus Convention Bureau

CETL-MSOR Committee

Shazia Ahmed	Glasgow University
Michael Grove	Birmingham University
Ciarán Mac An Bhaird	Maynooth University
Robert Wilson	Cardiff University

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Our thanks go to everyone involved.

