

### Simple Floor Plan of Block BD Level 01

Key: Blue line indicates hallways on each Level



## EERN 2024: Beyond Boundaries: Inclusive, Sustainable and Outward Looking Engineering Education

17 June 2024 – Morning | Ulster University Belfast, Block BD [<https://www.ulster.ac.uk/yourbelfastcampus/maps-and-facilities/maps>]

Registration 9:00 – 10:15   BD-01-006 Tea, Coffee and Pastries			
Welcome to EERN 2024 10:15 – 10:30   Location: ROOM BD-01-014			
Theme 1. Diversity, Equality, and Inclusivity Chair: Margaret Morgan 10:30 – 11:45   Location: BD-01-016	Theme 2. Student Experience Chair: TBC 10:30 – 11:45   Location: BD-01-018	Theme 3. Mathematics Chair: Bob McMurray 10:30 – 11:45   Location: BD-01-023	Theme 4. Technology-enhanced Learning Chair: TBC 10:30 – 11:45   Location: BD-01-014
1. How can we improve the effectiveness and fairness of Group work; with a focus on the experience for females studying in Male-dominated STEM subjects	1. Engineering student belonging: an operational framework	1. The incidence of maths anxiety in applied mathematical subjects at undergraduate level and the impact of mindfulness techniques as a pedagogical strategy.	1. Establishing computer-based engineering analysis tools in existing civil engineering curriculum: a case study
<b>Jennifer S Thompson</b> , William Newton, Ben Morgan, and William Bennett	<b>Claudia Favero</b> , Neil Cooke, Jacqueline Chetty, Neil Drury, Holly Foss, Zena Green, Iain Kings, and Ilija Rasovic	<b>Louise Brown</b> and Alan Brown	<b>Hamed Moghaddasi</b> , Alessandro Tarantino, Olga Bylya, Bhaskaran Krishnamurthy, Bridget Ogwezi, and Ravindra Shirsath
2. Social justice in engineering: Empowering the Next Generation in Rural Kenya	2. The relationship between Socioeconomic Status and Academic Self-Concept in UK Engineering Students: A Case Study from the European University of Wellbeing (EUniWell) MASOEE project.	2. Embedding Mathematics in Engineering Education through context-led Enquiry-based Learning	2. Reflecting on our digital transformation of practical work
<b>Patricia Munoz-Escalona</b> , Andrew Cowell, Mohamed Farrag, Ing Liang Wong, and Daniel Onudi	Sarah Chung, <b>Neil Cooke</b> , Daniel Cottle, Kamel Hawwash, Enrica Caporali, Gianni Bartoli, Jörgen Forss, and Jesper Andersson	<b>Thomas Knight</b> , Parakram Pyakurel, James Atuonwu, and Sarah Peers	<b>Timothy D. Drysdale</b> and David P. Reid
3. Designing phenomenological focus groups interviews to explore gender dynamics in engineering education	3. Providing choice and autonomy in coursework assessment – what happened next?	3. The Impact of Timetabled Maths Drop-in Sessions on Student Engagement with Support Services and Academic Performance.	3. Modernised Laboratory-based learning for Electronic-Engineering Modules: Evaluation Methods and Lessons Learned
<b>Sandra I. Cruz-Moreno</b> , Shannon Chance, and Brian Bowe	<b>Aled Wyn Davies</b>	<b>Pinar Ozbaser</b> and Gareth Woods	Naseem Ramli and <b>Tabbi Wilberforce</b>
		4. Implementing Baseline Mathematics Testing and In-Curriculum Peer Mentoring Scheme to Improve Attainment and Continuation of 1st Year Engineering and Computer Science Students Post COVID-19.	4. Augmented Reality Game for Learning Coding
		Gareth Woods, <b>Pinar Ozbaser</b> , and Nicola Allett	<b>Joe Yuen</b> , Reem Hadeed, and Arezoo Vejdandarast
Break 11:45 – 12:00   BD-01-006			

## EERN 2024: Beyond Boundaries: Inclusive, Sustainable and Outward Looking Engineering Education

17 June 2024 – Afternoon | Ulster University Belfast, Block BD [<https://www.ulster.ac.uk/yourbelfastcampus/maps-and-facilities/maps>]

<b>Workshop 1. Supporting the Student Journey: Development of AHEP4 learning outcomes across year group</b> 12:00 – 13:00   Location: BD-01-016	<b>Workshop 2. Developing an entrepreneurial mindset in engineering students</b> 12:00 – 13:00   Location: BD-01-018	<b>Workshop 3. Do engineers need academic qualifications? Envisioning a workplace-focused engineering education model: catalyst for reflecting on our current practices.</b> 12:00 – 13:00   Location: BD-01-023	<b>Workshop 4. Engineering Education 5.0: Surviving the New Epoch</b> 12:00 – 13:00   Location: BD-01-014
<b>Natalie Wint and William Bennett</b>	<b>Margaret Morgan</b> , Paul Joseph-Richard, Darryl Cummins, Aodheen McCartan, and Rosalind Henry	<b>Stewart Beattie</b> , Graeme Knowles, Goudharz Poursharif, and Christopher J. M. Smith	<b>Jane Andrews, Poonam Aulak, Robin Clark</b>
<b>Lunch 13:00 – 14:15   BD-01-006</b>			
<b>Building inclusion through wellbeing with Colin Turner</b> 14:15 – 15:15   Location: BD-01-014 <i>Creating a more inclusive curriculum and student experience is a common goal in Engineering Education. This can be challenging to achieve in a sustainable way that works in both large and small HEIs, given their current funding arrangements and pressures on staff workloads and students. This keynote will explore the current pain points and obstacles and what we can do to build better wellbeing into our education system.</i>			
<b>Break 15:15 – 15:30   BD-01-006 Tea and Coffee</b>			
<b>Theme 5: STEM in Schools</b> Chair: TBC 15:30 – 16:45   Location: BD-01-016	<b>Theme 6: Histories and Futures of Engineering Education</b> Chair: TBC 15:30 – 16:45   Location: BD-01-018	<b>Theme 7: Digital Skills &amp; Evaluation of Engineering Education</b> Chair: TBC 15:30 – 16:45   Location: BD-01-023	<b>Theme 8: Assessment</b> Chair: Louise Brown 15:30 – 16:45   Location: BD-01-014
1. Promoting spatial ability development among secondary school students in Ireland	1. Higher Education Engineering needs its 'New Wave' moment	1. Stakeholder mapping to further engagement discovery for effective impact analysis of engineering modules	1. Online assessment in the large part-time class: challenges and opportunities
<b>Gavin Duffy</b> and Sheryl Sorby	<b>Roger Penlington</b>	<b>Kevin Delaney</b> and Niamh O'Hora	<b>Olga Pishchukhina</b> , Daria Gordieieva, and Austen Rainer
2. Determining impact indicators for evaluation of STEM outreach programmes – a Delphi study	2. Evaluating the entry level knowledge and skills of first year undergraduate engineering students: A comparative analysis over a decade	2. Designing and Measuring the Quality of Cybersecurity Curriculum: A Comprehensive Approach	2. The effectiveness and acceptance of Adaptive Learning Technology for the Assessment of Fluid Mechanics within Engineering
<b>Youn Affejee</b> , Freeha Azmat, Michael Mortenson, and Robin Clark	<b>Louise Pick</b> , Charles McCartan, and Felix Hagan	<b>Kaniz Fatema</b>	<b>Jennifer Sarah Thompson</b> , Francesco Del Giudice, and Alper Celik
3. Investigating School Students' Perceptions on STEAM in Deprived Areas of UK and Kenya	3. Revamping Engineering Education: A Case Study of the evolution of an Introduction to Engineering Module	3. Student and industry use of spreadsheet methods for modelling	3. Evolution of the Viva to a Professional Review Discussion in the assessment of capstone group Engineering projects
<b>Patricia Munoz-Escalona</b> , Amanda Mendes Ferreira Gomes, Renata Mansuelo Alves Domingos, Aline Cristiane Pan, Ricardo R��ther, and Christopher David Pinder	<b>Matthew John Cairns</b> , Louise Pick, Charles McCartan, and Eoin Cunningham	<b>Dara Clarke</b> and Rebecca Broadbent	<b>Hugo Williams</b>
4. Diversity in Engineering Apprenticeship Programmes; Recruitment Best Practice	4. Developing an Integrated Approach to Practice, Pedagogy, and Policy for UK Engineering Education. An Investigation.	4. Funded Curriculum Partnerships: Increasing the strategic usage of industry standard tools in higher education	4. Embedding an Innovative Two Stage Approach to Summative Assessment in Electronic and Electrical Engineering Degree Programmes
<b>Stewart Beattie</b> , Christine Switzer, Michele Romano, Mike Murray, and Yannick Kremer	Nikita Hari, <b>Abel Nyamapfene</b> , and John Mitchell	<b>Bridget Ogwezi</b> , Kaitlin Tyler, and Susan Coleman	<b>Rola Saad</b> , Guang-Jin Li, Andrew Maiden, and Lee Ford
	5. Experiential Learning in STEM Education: Review of Interesting Practices	<b>5. Module Huddles: The Agile Concept of Responsive Action for Module Feedback Improvement</b>	5. Refining Transversal Skills Through Engineering Design Projects: A Case for Authentic Assessment
	<b>Graeme Knowles</b> , Stewart Beattie, Gourdez Poursharif, and Christopher Smith	<b>Rinkal Desai</b> and <b>Nicola J. Knowles</b>	<b>Gerald Gallagher</b> , Kevin Delaney, David Salter, Mingzhu Chen
<b>17:00 Dinner and social activities in Belfast, see the flyer for some options</b>			

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Registration, Tea, Coffee and Croissants 9:00 – 10:00   BD-01-006			
<p><b>Panel Discussion: Beyond Today's Boundaries: What will industry need from engineers in the future? With Katrina Thompson (Artemis Technologies) and John Rainey (Denroy Group)</b>  <b>10:00 – 11:00</b>   Location: BD-01-014</p> <p><i>In this session we will hear from industry leaders about what is on and beyond the horizon in terms of the skills that engineers might need and the technologies that they will have to be acquainted with. The session will have an opportunity for questions and discussion.</i></p>			
Break 11:00 – 11:15   BD-01-006			
<p><b>Workshop 5. Planning &amp; Implementing Activity-Based Learning</b>  <b>11:15 – 12:15</b>   Location: BD-01-016</p>	<p><b>Workshop 6. Resources for the EERN community: An introduction to the forthcoming International Handbook of Engineering Ethics Education</b>  <b>11:15 – 12:15</b>   Location: BD-01-018</p>	<p><b>Workshop 7. Engineering Non-technical Skills Taxonomy: A Sort and Grid Workshop</b>  <b>11:15 – 12:15</b>   Location: BD-01-023</p>	<p><b>Theme 9: Generative AI in Engineering Education</b>                  Chair: TBC  <b>11:15 – 12:15</b>   Location: BD-01-014</p>
<p><b>Matthew Blacklock</b>, Chris Connor, and Roger Penlington</p>	<p><b>Shannon Chance</b>, Tom Borsen, Diana Martin, Gunther Bombaerts, Roland Tormey, and Thomas Lennerfors</p>	<p><b>Ali Jabri</b>, Claire Lucas, and Francesco Ciriello</p>	<p>1. GenAI in the Hands of Experts: A Qualitative Study of Academics' Experiences and Future Recommendations  <b>Manish Malik</b>, Anne Nortcliffe, Scott Turner, and Rehan Shah</p> <p>2. Adapting to the Challenges of Generative AI to Engineering Education  <b>Debjani Goswami</b> and Jean-Baptiste Soupez</p> <p>3. Impact of CDIO Framework Pedagogical Approach Adoption on the Student Learning and Experience                  Anne Nortcliffe, Gabbie Matei, <b>Manish Malik</b>, Soumya Manna, Ghazal Sheikholeslami, and Helen James</p>

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<b>Lunch 12:15 – 13:30   BD-01-006</b>			
<b>The potential of engineering educators to adapt degrees for 2030 and beyond with Sarah Hitt and Emma Crichton</b>			
13:30 – 14:30   Location: BD-01-014			
<i>Being equipped to act sustainably, ethically, and equitably is crucial for all engineers. As a concept, 'global responsibility' in engineering recognises the need to consider all three of these aspects together in decision-making. In March this year, Engineers Without Borders UK launched the Reimagined Degree Map, and the Engineering Professors Council simultaneously launched their Sustainability Toolkit. This session will consider how we can look to 2030 and beyond using these resources.</i>			
<b>Break 14:30 – 14:45   BD-01-006 Tea and Coffee</b>			
<b>Theme 10: Problem-based and Project-based Learning</b> Chair: TBC 14:45 – 15:45   Location: BD-01-016	<b>Theme 11: Interdisciplinarity and Inclusion</b> Chair: TBC 14:45 – 15:45   Location: BD-01-018	<b>Theme 12: Engineering for the Sustainable Development Goals</b> Chair: Alan Brown 14:45 – 15:45   Location: BD-01-023	<b>Theme 13: Teamwork and Peer Learning in Engineering Education</b> Chair: TBC 14:45 – 15:45   Location: BD-01-014
1. Interdisciplinary Engineering Using Problem-Based Learning: Reflections from an Approach at Cardiff and Bath Universities	1. Building beyond boundaries through inclusive recruitment and inclusive research: Towards socially just engineering	1. An investigation into engineering skills and values, and how they contribute to global responsibility, and the United Nations Sustainable development goals.	1. Reporting Back: A Follow-Up Study on Promoting International Master Engineering Students' Teamwork Skills via Interactive Workshop
Venkat Bakthavatchalam, <b>Aled Davies</b> , and Gavin Knowles	<b>Holly Foss</b>	<b>Charlene Clinton</b>	<b>Ya He</b> and Mo Zandi
2. Innovative Project Based Learning in a Second Year Mechanical Engineering Module in the Context of a Programme Level Approach.	2. An EDI engineering employability learning toolkit to aid engineering student progression	2. Decarbonising Thermodynamics: Teaching Mechanical Engineering Thermodynamics for a net-zero future	2. Podcasts for capturing student experience to enhance group challenge-based learning
<b>Rola Saad</b> and David Polson	<b>Manish Malik</b> , Claudius Fanusie, Holly Stevenson, Mehmet Erk, Anne Nortcliffe, Gabbie Matei, Mary Makinde Church, Susan Odev, Ellie Martin, and Stewart Eyres	<b>Alan Brown</b>	<b>Neil Cooke</b> , Pedro-Martinez Vazquez, Carol Kong, and Xilin Xia
3. Merging Design Competencies for Life-Cycle Assessments and Sustainable Development Goals in Engineering Project-based Learning	3. Challenges of Teaching Interdisciplinary Research Methods to Engineering Students	3. Global Engineering Competency (GEC) development through participation in the Engineers Without Borders Engineering for People Design Challenge.	3. The Impact of Peer Assisted Learning in a Second Year Linear Algebra Module
<b>Jon-Erik Dahlin</b> and Francesco Ciriello	Lauren Schrock and <b>Poonam Aulak</b>	<b>Rebecca Broadbent</b> , Christopher J. M. Smith, Ana Kyoseva, and Alan Nesbitt	Gareth Woods, <b>Pinar Ozbeser</b> , and Nicola Allett
			4. The Impact of Peer Assisted Learning in a Second Year Linear Algebra Module
			Gareth Woods, <b>Pinar Ozbeser</b> , and Nicola Allett
<b>Break 15:45 – 16:00   BD-01-106</b>			
<b>UK and Ireland Engineering Education Network Meeting 16:00 – 16:30   BD-01-016</b>			