



International Conference on Advancements in
Engineering Education (iCAEED-2024) 20-23



WESTERN SYDNEY UNIVERSITY



**3rd International Conference on Advancements in Engineering Education (iCAEED-
2024) 20-23 Nov 2024, Sydney, Australia**

7th GCSTMR World Congress

Western Sydney University, Penrith Campus (Kingswood), Sydney, Australia

Second Ave, Kingswood NSW 2747

Organised by:

School of Engineering, Design and Built Environment,

Western Sydney University

and

Global Circle for Scientific, Technological and Management Research (GCSTMR)

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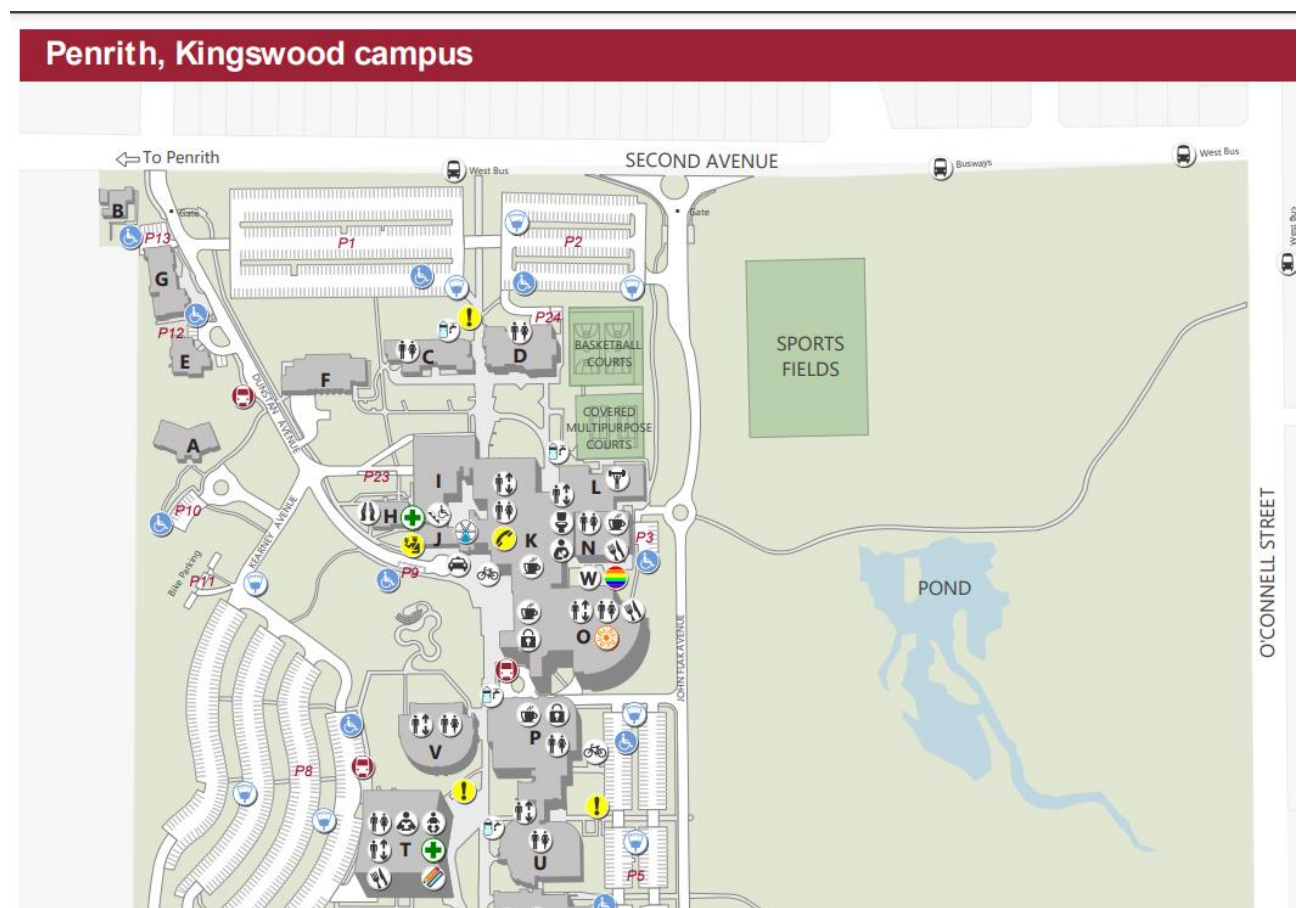
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| Day 1– Wednesday 20 Nov 2024 | | |
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| Time | Event | Remark |
| 5:30pm - 7:30 pm | Registration, Refreshments, and Networking (Room: KW-P.1.24, KW-P.1.28 & open space in building P ground level) | Delegates will be welcomed by: Prof Ataur Rahman Prof Swapan Saha Assoc Prof Rafiqul Islam |

Western Sydney University: Penrith: Kingswood. It is 10 minutes' walk from Kingswood Station. A free shuttle bus runs from Kingswood Station to Kingswood Campus.

https://www.westernsydney.edu.au/content/dam/digital/pdf/campus-maps/Kingswood_Campus_General.pdf



| Day 2 – Thursday 21 November 2024 | |
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| Time | Session |
| 8:00 – 9:00 am | Registration WSU Penrith Campus (Kingswood), Building Room: KW-P.1.28(CLS) Desk in charge: Ms Jenis Islam |
| 9:00 – 9:30 am | Conference Opening: Room KW-O.1.20, Penrith Campus (Kingswood) Moderator: Prof Ataur Rahman, Chair, GCSTMR Acknowledgment of Indigenous owners of the land Speech: Prof Freya MacMillan, Associate Pro Vice-Chancellor Research Speech: Prof Yang Xiang, Deputy Dean, School of Engineering, Design and Built Environment Speech: Prof Vivian Tam, Chair (iCCPMCE-2024) Speech: Prof Ataur Rahman, Chair (iCAEED-2024) Speech: Assoc Prof Rafiqul Islam, Chair (FMLDS-2024) Housekeeping: Prof Ataur Rahman |
| 9.30-10.00 am | Plenary Session 1- Chair: Prof Ataur Rahman (Room KW-O.1.20) International trends in quality assurance and mutual recognition of engineering education outcomes Prof Elizabeth Taylor AO Deputy Chair, Sydney Accord, The International Engineering Alliance, and Former Chair, Washington Accord, Engineers Australia Accreditation Board |
| 10.00-10.30 am | Plenary Session 2- Chair: Prof Vivian Tam (Room KW-O.1.20) Prof LY Shen, Qiantang Distinguished Professor, Hangzhou City University |
| 10:30-11:00 am | Morning Tea (Ground level open space in building P) |

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| 11:00-11:30 am | Plenary Session 3 - Chair: Assoc Prof Yingbin Feng (Room KW-O.1.20) | | |
| | Davina Rooney, CEO, Green Building Council of Australia | | |
| 11:30-12:00 pm | Plenary Session 4 - Chair: Prof Ataur Rahman (Room KW-O.1.20) | | |
| | Behind the Scenes of Academia: Realities of an Engineering Professor Prof Akhtar Kalam, Victoria University | | |
| 12:00-12:30 pm | Plenary Session 5 - Chair: A/Prof Rafiqul Islam (Room KW-O.1.20) | | |
| | Prof Mohammed Bennamoun | | |
| 12:30 -1:30 pm | Lunch (Ground level open space in building P) | | |
| 1:30-1:55 pm | Keynote Speaker 1: Journey of Bangladeshi Engineering Education to Become a Full Signatory to the Washington Accord in 2024 | | |
| | Dr A H M Kamruzzaman: Secretary, Institution of Engineers Bangladesh (IEB), Australia Chapter, Australia and Principal Engineer, Transport for New South Wales: Chair: Prof Chin Leo | | |
| 1:55-2:20 pm | Keynote Speaker 2: Alignment of University Education and Career Readiness for Engineering Students Dr Sabrina Fawzia, Senior Lecturer, Queensland University of Technology, Chair: Prof Chin Leo | | |
| iCAEED-2024: Technical session 1A (parallel) | | | |
| | KW-P.1.33 (CLS): Chair: Dr Ee Loon Tan | KW-P.1.36 (CLS): Chair: Dr Tosin Famakinwa | P.G.35 (LT): Chair: Prof Ataur Rahman |
| 2:20-2:40 pm | Relationship between deep learning and authentic assessment in undergraduate engineering education <i>Azharul Karim, Sharon Altena, Henk Huijser and Sabrina Fawzia</i> | Experimental Study of Virgin ABS, Recycled ABS and Basal Fibre Recycled ABS Composites by Hot Press <i>Prakash Neupane, Tosin Famakinwa, Phan Nguyen, Ee Loon Tan, Richard Yang</i> | Selection of the Best fit Probability Distribution for Annual Maximum Daily Rainfall Data for Northwest Bangladesh <i>Afiya Saiara, Ataur Rahman, Md Abdul Alim, Hasan Zobeyer, S M Mahbubur Rahman, Nasreen Jahan and AHM Kausher</i> |

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| 2:40-3:00 pm | Estimation of Actual Water Savings from a Household Rainwater Harvesting System Using MyWell App <i>Shuvra Sikder and Dharmappa Hagare</i> | Transformative Approaches to Studio Teaching: Enhancing Students' Skills through a Blended Environment <i>Mirko Guaralda</i> | Computer Vision Solutions for Bridge Pier Scour – Prospects, Limitations and Future Recommendations <i>Huda Zain, Umair Iqbal and Muhammad Zain Bin Riaz</i> |
| 3:00-3:20 pm | A Study on River Water Temperature in Victoria <i>Sally Lou Bag-ao, Xiao Pan, Rehana Shaik and Ataur Rahman</i> | Mechanical characterization of PC, PET and HDPE waste plastics for Civil and Construction Applications <i>Andre Hernandez-White, Phan Nguyen, Tosin Famakinwa, Richard Yang</i> | Doctoral Supervision in Water Engineering: A Case Study in Western Sydney University <i>Ataur Rahman</i> |
| 3:20-3:50 pm | Afternoon Tea break (Ground level open space in building P) | | |
| 3:50-4:15 pm | Keynote Speaker 3: Micro credential development in construction management and engineering program in Australia Professor Swapan Shaha, Western Sydney University Session Chair: Dr Ee Loon Tan | | |
| iCAEED-2024: Technical session 2A (parallel) | | | |
| | KW-P.1.33 (CLS): Chair: Dr Md Abdul Alim | KW-P.1.36 (CLS): Chair: Dr Gokhan Yildirim | P.G.35 (LT): Chair Shafiq Shuvo |
| 4:15-4:35 pm | Zoom Session: Water Sensitive Urban Design Practices in Indian Cities: A Critical Review <i>Shaik Rehana, Mohammad Shikaf Ali, Ataur Rahman, Krishnan Sundara Rajan</i> | Zoom Session: Prediction of River Water Temperature using the Extreme Gradient Boosting – Tropical River System of India: <i>Rajesh Maddu, Shaik Rehana, Ataur Rahman, Taha B.M.J Ouarda</i> | Machine Learning with WEKA for Predicting Concrete Compressive Strength: An Educational Approach for Civil Engineering Students <i>M Arifuzzaman, M M Rahman, M K Islam, M Assali, U Gazder, Wadea Sindi and Manal Aburizaiza</i> |

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| 4:35-4:55 pm | <p>Zoom Session: Application of SWMM for Urban Storm Water Management- A Case Study of Hyderabad City</p> <p><i>Mohammad Shikaf Ali, Shaik Rehana, R. Venkata Ramana, Y. R. Satyaji Rao, Satish Kumar Mummidiwarapu, Ataur Rahman</i></p> | <p>Zoom Session: Fluid Mechanics Education in Engineering: Challenges and Trends from a Bibliometric Analysis</p> <p><i>Gokhan Yildirim, Xiao Pan, Ataur Rahman, School of Engineering, Design and Built Environment, Penrith Campus, Western Sydney University</i></p> | <p>Artificial Intelligence-based Regional Flood Modeling: Illustration of Learning Aspects by a Doctoral Student</p> <p><i>Nilufa Afrin, Ataur Rahman, Farhad Ahamed, Ahmad Sharafati</i></p> |
| 4:55-5:15 pm | <p>Zoom Session: Application of GIS in Rainwater Harvesting Potential Regions – Hyderabad Case Study</p> <p><i>Shaik Rehana, Mohammad Shikaf Ali, Ataur Rahman, Krishnan Sundara Rajan</i></p> | <p>Zoom Session: Comparative Evaluation of Index-Based Techniques for Seawater Intrusion Vulnerability Analysis</p> <p><i>Subhankar Ghosh, Madan Kumar Jha, Vimlendra Mani Pandey, Ataur Rahman</i></p> | <p>Stormwater Management in Australia: Recent Progress and Future Challenges</p> <p><i>Shafiq Shuvo</i></p> |
| 5:15-5:40 pm | <p>Keynote Speaker 4: Application of Big Data Analysis, Supercomputing, IoT, and AI and ML in engineering education Assoc Prof Rehana Shaik, International Institute of Information Technology (IIIT) Hyderabad, India, Chair: Prof Ataur Rahman (via Zoom)</p> | | |
| 5:40 -6:05 | <p>Keynote Speaker 5: Water Resources Management and Water Education in Bangladesh and Lessons Learned over the Last Century Mr A H M Kausher, Chief Engineer (Rtd), Presently Hydro-Morphology and Planning Advisor, Mott MacDonald, Dhaka, Bangladesh, Chair: Prof Ataur Rahman (via Zoom)</p> | | |
| 6:30 pm | <p align="center">Conference Dinner + Award Ceremony Trivia: Monisha Anindita and her team Speech by Prof Ataur Rahman, Assoc Prof Yingbin Feng, Assoc Prof Rafiqul Islam</p> | | |

| Day 3 – Friday 22 November 2024 | | | |
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| Time | Session | | |
| 8:00 – 9:00 am | <p align="center">Registration Penrith Campus (Kingswood), Building Room: KW-P.1.28(CLS)</p> | | |
| 9:00-9:25 am | <p>Keynote Speaker 6: Challenges of eco-hydrology teaching to undergraduate engineering students Dr Clare Stephens, Research Fellow, Hawkesbury Institute for the Environment, Western Sydney University, Chair: Prof Ataur Rahman</p> | | |
| 9:25-9:50 | <p>Keynote Speaker 7: Learning of Bayesian methods in hydrology research and teaching Dr Khaled Haddad, Visiting Academic, School of Engineering, Design and Built Environment, Western Sydney University, Chair: Prof Ataur Rahman</p> | | |
| iCAEED-2024: Technical session 3A (parallel) | | | |
| | KW-P.1.33 (CLS): Chair: Dr Md Mizanur Rahman | KW-P.1.36 (CLS): Chair: Dr Khaled Haddad | P.G.35 (LT): Chair: Dr Clare Stephens |
| 9:50-10:10 am | Learning Hydrology by an Australian High School Student <i>Shion Khan, Sumya Rahman, Ataur Rahman</i> | Flood Frequency Analysis: Exploring the Role of Statistical Models in Engineering Education and Practice: <i>Laura Rima, Ridwan S M H Rafi, Ataur Rahman and Khaled Haddad</i> | Recent Developments in the Engineering Education Sector in Australia <i>Md Rayhan Hasnat and Ataur Rahman</i> |
| 10:10-10:30 am | Advancing Energy Technology Education: Curriculum and Course Innovations to Address Evolving Challenges <i>Md Mizanur Rahman and Ataur Rahman</i> | Teaching Quality Evaluation for Engineering: An analytical review <i>Xuejing Ruan, Hai Sun, Xiumei Feng and Wenchi Shou</i> | Challenges in application of statistical techniques in hydrology: A case study on regional flood modelling in southeast Australia <i>Ali Ahmed, S Tasneem and A Rahman</i> |

| 10:30 – 11:00am | | Morning Tea (Ground level open space in building P) | | |
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| iCAEED-2024: Technical session 4A (parallel) | | | | |
| | KW-P.1.33 (CLS): Chair: Dr M Ashiqur Rahman | KW-P.1.36 (CLS) (Zoom): Chair Dr Vojislav Ilic | P.G.35 (LT): Chair: Dr Ee Loon Tan | |
| 11:00-11:20am | Study of noise pollution in engineering education: an analysis on the state of noise level in some selected suburbs of NSW <i>Andy Su and M Ashiqur Rahman</i> | Engineering and Medicine Symbiosis – An educational perspective <i>Vojislav Ilic</i> | Refugees and Immigration Skill-Me Program Authors - Daniel Bonatti, Ee Loon Tan, Sameera Wijesiri Pathirana and Alan Todhunter | |
| 11:20-11:45 am | Groundwater engineering education: an application of HYDRUS 1D modelling to study groundwater flow and solute transport in some selected locations of NSW <i>Kriti Paudel and M. Ashiqur Rahman</i> | Artificial Intelligence in Civil Engineering Education <i>Md Zahidul Islam, Chin Jian Leo, Ju Jia Zou, Samanthika Liyanapathirana and Pan Hu</i> | Learning Outcomes which include Feedback <i>Daniel Bonatti, Ee Loon Tan, Sameera Pathirana and Alan Todhunter</i> | |
| 11:45-12:05 pm | Renewable energy education in engineering: an assessment on the use of solar photovoltaic systems in NSW and Victoria <i>Tran Phan and M. Ashiqur Rahman</i> | A Brief Review of the Impact of Generative Artificial Intelligence (AI) on Engineering Education <i>Md Abu Raihan and Ataur Rahman</i> | Trends in Water Temperature: A Case Study for New South Wales, Australia <i>Keshav Prasad Joshi, Xiao Pan, Ataur Rahman</i> | |
| 12:05-12:25 pm | Sustainable Stormwater Management Using Stormwater Quality Improvement Devices: A Review <i>Sesugh Yua, Ataur Rahman, Mohammad A. Alim and Blake Allingham</i> | Using Project-based Learning Strategies and Digital Data Storytelling for Sustainability Education of a Green Building Process <i>Laura Almeida, Sepani Senaratne and Srinath Perera</i> | Application of Water Sensitive Urban Design Technique in Bangladesh <i>Omkar Wagle and Ataur Rahman</i> | |
| 12:25-1:30 pm | Lunch (Ground level open space in Building P) | | | |
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| | KW-P.1.33 (CLS): Chair: Prof Ataur Rahman | | |
| 1:45-2:05 | Aspects of Engineering Education: A Comparison between Bangladesh and Australia <i>S M Anwar Hossain, Ataur Rahman</i> | | |
| 2:05-2:20 | xxx | | |
| 2:20-2:40 | xxx | | |

| Day 4 – Saturday 23 November 2024 | |
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| Time | Session |
| 8:00 am – 5 pm | Sight seeing (Booking is needed, Please contact Ms Jenis Islam by email: jenislam04@gmail.com) |