



# 6TH INTERNATIONAL CONFERENCE ON MECHANICAL, INDUSTRIAL AND ENERGY ENGINEERING

📍 Khulna, Bangladesh 📅 19-21 December, 2020



Organized by:  
Faculty of Mechanical Engineering  
Khulna University of Engineering & Technology (KUET)

## Conference Program

**Date: December 19, 2020**

Time	Program
09:30AM-11:00AM	<b>Inaugural Ceremony (On-site and Online)</b> <b>Venue: Student Welfare Centre (Room No. 201), KUET</b> <b>Zoom ID: <a href="#">693 8593 1317</a></b>
	9:35: Guests take seats 9:40: Recitation from the Holy Al-Quran 9:45: Keynote Lecture by <b>Prof. Donald M. Reimer</b> (Lawrence Technological University, USA) Title: Tires, Tires, Tires Everywhere – What shall we do? An Entrepreneurial Thinking and Innovation Model 10:30: Welcome speech by <b>Prof. Dr. Mohammad Ariful Islam</b> , Chair, Organizing and Technical Committee 10:35: Speech by <b>Prof. Dr. Zahir Uddin Ahmed</b> , Secretary, Technical Committee 10:40: Speech by Chief Guest <b>Prof. Dr. Kazi Shahidullah</b> , Chairman, UGC, Bangladesh 10:50: Speech by Chief Patron <b>Prof. Dr. Quazi Sazzad Hossain</b> , Vice-Chancellor, KUET, Bangladesh 10:55: Vote of thanks by <b>Prof. Dr. Sobahan Mia</b> , Secretary, Organizing Committee
11:00AM-11:30AM	<b>Refreshment and Communication break</b>
11:30 AM-01:00PM	Parallel Technical Sessions <b>A1: On-site Technical Session</b> (Paper ID: 080, 131, 191, 286, 291) Chair: Prof. Dr. Md. Nawsher Ali (North Western University, Khulna) Co-chair: Dr. Md. Abdul Wakil (KUET) Zoom ID: <a href="#">693 8593 1317</a> <b>B1: Engineering Materials</b> (Paper ID: 028, 033, 047, 052, 159, 198) Chair: Prof. Dr. Md. Shahidul Islam (KUET) Co-Chair: Dr. Md. Shariful Islam (KUET) Zoom ID: <a href="#">617 9603 9075</a>
1:00PM-2:00PM	<b>Lunch Break</b>
2:00PM-3:30PM	Parallel Technical Sessions <b>A2: Manufacturing Process</b> (Paper ID: 009, 046, 049, 050, 220, 230) Chair: Prof. Dr. Mohammad Asaduzzaman Chowdhury (DUET) Co-chair: Dr. Md. Rafiquzzaman (KUET) Zoom ID: <a href="#">693 8593 1317</a> <b>B2: Solar Energy</b> (Paper ID: 021, 057, 135, 184, 256) Chair: Prof. Dr. Md. Anowar Hossain (DUET) Chair: Dr. Md. Hasan Ali (KUET) Zoom ID: <a href="#">617 9603 9075</a> <b>C2: Maintenance Engineering</b> (Paper ID: 067, 155, 202, 227, 229, 231) Chair: Prof. Md. Golam Kader (KUET) Co-Chair: Dr. Md. Abdul Wakil (KUET) Zoom ID: <a href="#">623 7729 5891</a> <b>D2: Industrial and Production Engineering I</b> (Paper ID: 006, 022, 061, 079, 098, 143) Chair: Professor Dr. Tarapada Bhowmick (North Western University, Khulna) Co-Chair: Mr. Subrata Talapatra (KUET) Zoom ID: <a href="#">677 2547 4730</a>
3:30PM-3:45PM	<b>Tea and Communication break</b>



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3:45PM-5:05PM	<b>Plenary Session 1</b> Chair: <b>Prof. Dr. A. N. M. Mizanur Rahman (KUET)</b> Zoom ID: <a href="#">693 8593 1317</a>
3:45PM-4:25PM	Title: Energy Security through Nuclear Power Plant and Human Resource Development Keynote Speaker: <b>Prof. Firoz Alam</b> (RMIT University, Australia)
4:25PM-5:05PM	Title: Acoustic Emission Technique, A Nondestructive Monitoring Tool for Damage Detection and Evaluation Keynote Speaker: <b>Dr. Md. Tawhidul Islam Khan</b> (Saga University, Japan)

**Date: December 20, 2020**

9:00AM-10:20AM	<b>Plenary Session 2</b> Chair: <b>Prof. Dr. Md. Kutub Uddin (KUET)</b> Zoom ID: <a href="#">693 8593 1317</a>
9:00AM-09:40AM	Title: Lunar Surface Sustainability: A Permanent Human Settlement on the Moon Keynote Speaker: <b>Prof. Ahsan R. Choudhuri</b> (The University of Texas at El Paso, USA)
9:40AM-10:20AM	Title: Industry 4.0 and Digital Twin and Global Competition-Challenges and Opportunity Keynote Speaker: <b>Dr. Ahad Ali</b> (Lawrence Technological University, USA)
10:20AM-10:30AM	<b>Tea and Communication break</b>
10:30AM-11:45AM	Parallel Technical Sessions <b>A3: Thermo and Nano Fluids</b> (Paper ID: 106, 127, 160, 243, 284) Chair: Prof. Dr. Zahir Uddin Ahmed (KUET) Co-Chair: Dr. Kazi Mostafijur Rahman (KUET) Zoom ID: <a href="#">693 8593 1317</a> <b>B3: Renewable Energy</b> (Paper ID: 007, 038, 041, 130, 165) Chair: Prof. Dr. Mohammad Shahed Khan Tushar (RUET) Co-Chair: Dr. Md. Hasan Ali (KUET) Zoom ID: <a href="#">617 9603 9075</a> <b>C3: Robotics</b> (Paper ID: 104, 167, 170, 195, 250) Chair: Prof. Dr. Md. Emdadul Hoque (RUET) Co-Chair: Dr. Md. Sanaul Rabbi (CUET) Zoom ID: <a href="#">623 7729 5891</a> <b>D3: Aerodynamics</b> (Paper ID: 011, 124, 192, 232, 248) Chair: Prof. Dr. Mohammad Mashud (KUET) Co-Chair: Dr. Md. Ashraful Islam (KUET) Zoom ID: <a href="#">677 2547 4730</a>
11:45AM-12:00PM	<b>Tea and Communication break</b>
12:00PM-01:00PM	Parallel Technical Sessions <b>A4: Smart Materials and Additive Manufacturing</b> (Paper ID: 071, 183, 190, 268) Chair: Prof. Dr. Md. Arefin Kowser (DUET) Co-Chair: Dr. Md. Shariful Islam (KUET) Zoom ID: <a href="#">693 8593 1317</a> <b>B4: Nuclear Engineering</b> (Paper ID: 105, 205, 260, 266) Chair: Dr. Md. Shafiqul Islam (DU) Co-Chair: Dr. Md. Abdullah Al-Bari (KUET) Zoom ID: <a href="#">617 9603 9075</a> <b>C4: Fluid Machinery</b> (Paper ID: 065, 225, 251, 258) Chair: Prof. Dr. Mohammad Ali (BUET) Co-Chair: Dr. Kazi Mostafijur Rahman (KUET) Zoom ID: <a href="#">623 7729 5891</a>



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	<p><b>D4: Heat and Mass Transfer I</b> (Paper ID: 019, 076, 082, 108) Chair: Prof. Dr. Mohammad Ilias Inam (KUET) Co-Chair: Dr. Md. Khairul Bashar (Saga University, Japan) Zoom ID: <a href="#">677 2547 4730</a></p>
1:00PM-2:00PM	<b>Lunch Break</b>
2:00PM-3:30PM	<p>Parallel Technical Sessions</p> <p><b>A5: Industrial and Production Engineering II</b> (Paper ID: 146, 188, 214, 261, 275, 287) Chair: Prof. Dr. Sajal Chandra Banik (CUET) Co-Chair: Dr. Md. Rafiquzzaman (KUET) Zoom ID: <a href="#">693 8593 1317</a></p> <p><b>B5: Control Engineering</b> (Paper ID: 084, 136, 189, 228, 259, 278) Chair: Prof. Dr. Mhia Jaglul Shahadat (RUET) Co-Chair: Dr. Md. Helal An Nahiyen (KUET) Zoom ID: <a href="#">617 9603 9075</a></p> <p><b>C5: Composite Materials I</b> (Paper ID: 023, 027, 063, 093, 118, 270) Chair: Prof. Dr. Sobahan Mia (KUET) Co-Chair: Dr. Md. Abdul Hasib (KUET) Zoom ID: <a href="#">623 7729 5891</a></p> <p><b>D5: Chemical Engineering and Waste Management</b> (Paper ID: 036, 042, 097, 122, 152, 162) Chair: Prof. Dr. Biplob Kumar Biswas (JUST) Co-Chair: Dr. Md. Jahangir Alam (JUST) Zoom ID: <a href="#">677 2547 4730</a></p>
3:30PM-3:45PM	<b>Tea and Communication break</b>
3:45PM-5:05PM	<p><b>Plenary Session 3</b> Chair: <b>Prof. Dr. Mihir Ranjan Halder (KUET)</b> Zoom ID: <a href="#">693 8593 1317</a></p>
3:45PM-4:25PM	<p>Title: Recent and Ongoing Advancements in Research on Magnetic Suspension Keynote Speaker: Prof. Takeshi Mizuno (Saitama University, Japan)</p>
4:25PM-5:05PM	<p>Title: How Resilient is Our Supply Chain in the Context of COVID-19? – An Emerging Research Area in Supply Chain Keynote Speaker: Dr. Mesbahuddin Chowdhury (University of Canterbury, New Zealand)</p>

**Date: December 21, 2020**

9:00AM-10:20AM	<p><b>Plenary Session 4</b> Chair: <b>Prof. Dr. Khandkar Aftab Hossain (KUET)</b> Zoom ID: <a href="#">693 8593 1317</a></p>
9:00AM-09:40AM	<p>Title: Bioinspired Electrospun Nanocomposites: An Emerging Technology of Atmospheric Fog Water Generator Keynote Speaker: <b>Prof. Muhammad Mustafizur Rahman</b> (Wichita State University, USA)</p>
9:40AM-10:20AM	<p>Title: Design and Control of a Upper Extremity Rehabilitation Robots Keynote Speaker: <b>Dr. Mohammad Habibur Rahman</b> (University of Wisconsin-Milwaukee, USA)</p>
10:20AM-10:30AM	<b>Tea and Communication break</b>
10:30AM-11:45AM	<p>Parallel Technical Sessions</p> <p><b>A6: Structural Analysis</b> (Paper ID: 153, 164, 187, 199, 289) Chair: Prof. Dr. Abul Mukid Mohammad Mukaddes (SUST) Co-Chair: Dr. Md. Abdullah Al-Bari (KUET) Zoom ID: <a href="#">693 8593 1317</a></p> <p><b>B6: Computational Fluid Dynamics</b> (Paper ID: 064, 154, 168, 173) Chair: Dr. Adbullah Al-Faruk (KUET) Co-Chair: Dr. Md. Arifuzzman (KUET) Zoom ID: <a href="#">617 9603 9075</a></p>



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	<p><b>C6: Textile Engineering</b> (Paper ID: 077, 090, 147) Chair: Prof. Dr. Mohammad Abdul Jalil (KUET) Co-Chair: Dr. Md. Ismail Hossain (KUET) Zoom ID: <a href="#">623 7729 5891</a></p> <p><b>D6: Energy Management</b> (Paper ID: 030, 040, 134,148) Chair: Prof. Dr. Mizanur Rahman (CUET) Co-Chair: Dr. Md. Abdul Hasib (KUET) Zoom ID: <a href="#">677 2547 4730</a></p>
11:45AM-12:00PM	<b>Tea and Communication break</b>
12:00PM-01:15PM	Parallel Technical Sessions
	<p><b>A7: Heat and Mass Transfer II</b> (Paper ID: 073, 089, 103, 206, 273) Chair: Dr. Mohammad Sultan Mahmud (KUET) Co-Chair: Dr. Md. Ashraful Islam (KUET) Zoom ID: <a href="#">693 8593 1317</a></p> <p><b>B7: Refrigeration and Air conditioning</b> (Paper ID: 091, 109, 132, 267) Chair: Prof. Dr. Hasan Mohammad Mostofa Afroz (DUET) Co-Chair: Dr. Md. Mostaqur Rahman (DUET) Zoom ID: <a href="#">617 9603 9075</a></p> <p><b>C7: Leather Engineering</b> (Paper ID: 037, 158, 179, 201, 285) Chair: Dr. Md. Abul Hashem (KUET) Co-Chair: Dr. Md. Elias Uddin (KUET) Zoom ID: <a href="#">623 7729 5891</a></p> <p><b>D7: Composite Material II</b> (Paper ID: 075, 088, 115, 119, 253) Chair: Dr. Md. Mainul Islam ( University of Southern Queensland, Australia ) Co-Chair: Dr. Md. Arifuzzman (KUET) Zoom ID: <a href="#">677 2547 4730</a></p>
1:15PM-2:30PM	<b>Lunch Break</b>
<b>2:30PM-4:00PM</b>	<p><b>Plenary Session 5</b> Chair: <b>Dr. Md. Tawhidul Islam Khan</b> (Saga University, Japan) Zoom ID: <a href="#">693 8593 1317</a></p>
2:30PM-3:10PM	<p>Title: Development of Smart Materials for Invasive Medical Applications using Shape Memory Polymers Keynote Speaker: <b>Dr. Mainul Islam</b> (University of Southern Queensland, Australia)</p>
3:10PM-3:50PM	<p>Title: Research and Development of Next Generation Refrigerants and Refrigeration Systems Keynote Speaker: <b>Prof. Akio Miyara</b> (Saga University, Japan)</p>
3:50PM-4:00PM	<b>Tea and Communication break</b>
<b>4:00PM-5:00PM</b>	<p><b>Closing Ceremony</b> Zoom ID: <a href="#">693 8593 1317</a></p>