# International Conference on Science, Technology, Engineering, Mathematics, and Education,
## August 7-11, 2023, online in ZOOM.

https://www.ai4opt.org/news-events/international-conference-science-technology-engineering-mathematics-education

**Our Goal:**

- This conference is a fantastic opportunity for any STEME student, faculty, researcher, non-academic professional to present their research works, projects, panel discussions on current opportunities in different STEME educational pathways and networking.
- Share experiences and ideas, so that undergraduate students can get some guidelines about higher studies, research, or career in their STEME fields.

**Mission:**

Create higher education, research opportunities, or career guidelines for undergraduate students in recently developed STEME pathways.

Create professional growth opportunities for academic or non-academic professionals.

**Etiquette Conference Participants:**

- You will need to sign into your zoom account to participate in the zoom sessions.
- Please keep your microphone muted during any presentations.
- For questions or discussions, rise your hands first then unmute and participate in discussion.
- Please be patient in case you get disconnected or any technical difficulties due to internet connections arise. Sessions will be recorded and sent to each presenter and registered participants later.
- Participants can network with each other at the end of all presentations.

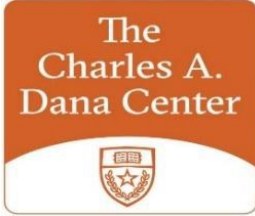| | Day 1, August 7, 2023; Monday | |
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| #0<br>US central time<br>8:30-8:55 am | **Inaugural session** | **Participants and presenters meet up, hangout, networking.** |
| #1<br><br>9:00-9:20 am<br>QnA: 5mins |  | **Farzana Hussain, Ph.D.**<br>Associate Professor of Math,<br>Huston-Tillotson University, USA<br>Farzana Hussain, Ph.D. \| LinkedIn<br>**Topic: Numerical modeling for Prediction of Strom Surge during severe hurricane.** |
| #2<br><br>9:30-9:50 am<br>QnA: 5mins |  | **Omar M. Aljawfi[1] Nawar Shara[1,2] Alexander Libin[1,2]**<br>**[1] Medstar Health Research Institute, [2] Georgetown University Medical Center**<br>Topic: Identifying the Associations Between Problem-Solving in Technology- Rich Environment and Educational Background Factors: An Investigation of Adult's Proficiency Level in PIAAC Using Machine Learning Algorithms |
| #3<br><br>10:00-10:20 am<br>QnA: 5mins |  | **Lila Ghemri, PhD**<br>Professor of Computer Science<br>Texas Southern University, USA<br><br>**Topic:  Privacy Preserving Sharing of Medical Data** |
| #4<br><br>10:30-10:50 am<br>QnA: 5mins |  | **Farzana Hussain, Ph.D.**<br>Associate Professor of Math,<br>Huston-Tillotson University, USA<br>Farzana Hussain, Ph.D. \| LinkedIn<br><br>**Topic:  AI and ML to study uses and abused of Opioid.** |
| #5<br><br>11:00-11:20 am<br>QnA: 5mins |  | **Farhana Hasan**<br>Founder and CEO<br>HerWILL inc, USA<br>Women Inspired in Life and Leadership – Women Inspired in Life and Leadership (herwill.org)<br>**Topic: Leadership, inclusion, diversity in AI, ML study and research** |

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| #6<br><br>11:30-11:50 am<br>QnA: 5mins |  | **Eileen Slaton, M.Ed**.<br>Faculty, Math,<br>Huston-Tillotson University, USA<br>Department of Mathematics « Huston-Tillotson (htu.edu)<br><br>**Topic: 1.Outlook vs. Output in the Math College Classroom** |
| #7<br><br>12:00-12:20 pm<br>QnA: 5mins |  | **Md. Amirul Islam**<br>Associate professor,<br>Dept. of mathematics,<br>Uttara University, Dhaka, Bangladesh<br><br>Topic: **Matrix Analytic Approach for Stochastic Perishable Inventory System in Jackson Network** |
| #8<br><br>12:30-12:50pm<br>QnA: 5mins |  | **Muhammad N. Siddiquee, PhD**<br>Assistant Professor, Department of Chemical Engineering,<br>Center for Refining and Advance Chemicals (CRAC),<br>King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia<br>Muhammad Nurunnabi Siddiquee, PhD | LinkedIn<br><br>Topic: **Sustainable Oxidative Conversion of Hydrocarbons to Produce Value-Added Chemicals** |
| #9<br><br>01:00-01:20pm<br>QnA: 5mins |  | **Dipok Deb**<br>Graduate Student<br>School of Mathematical and Statistical Sciences<br>University of Texas Rio Grande Valley<br><br>**Topic: Quantization for a Probability Distribution** |
| #10<br><br>1:30-1:50 pm<br>QnA: 5mins |  | **Hoda Tavakoli**<br>The University of Texas at Austin<br>https://www.linkedin.com/in/hoda-tavakoli-36135551/<br><br>Topic: How ChatGPT Could Help or Hurt Students With Disabilities (Different abilities) |

**Day 1 Zoom recording link:**

**https://htu-edu.zoom.us/rec/share/cF5-jPJzjRybtzgvTmc8q1S3BNhgH9wyY5p9MGJhEEreiTXfdTv2q9lcr9jogn8X.4jifG1ER2kZXdRvD**

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# Day 2, August 8, 2023; Tuesday

| #1<br><br>9:00-9:20 am<br>QnA: 5mins |  | **Josh Recio**<br>Charles A. Dana Center<br>University of Texas at Austin, USA<br><br>Topic: **Shifts in higher education mathematics, how they impact students, and a case study of this work in Central Texas.** |
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| #2<br><br>9:30-9:50 am<br>QnA: 5mins |  | **Farzana Hussain, Ph.D.**<br>Associate Professor of Math,<br>Huston-Tillotson University, USA<br>Farzana Hussain, Ph.D. \| LinkedIn<br>**Topic: Simulation of expected maximum water levels due to the Interaction of Tsunami and Tide along the Bay of Bengal** |
| #3<br><br>10:00-10:45 am<br>QnA: 10mins | **Tan, Wenxian, Ph.D.**<br>Assistant Professor, Biology,<br>Huston-Tillotson University, USA<br>Wenxian Tan \| LinkedIn<br><br>**Rosa Mino, Ph.D.**<br>Assistant Professor, Biology,<br>Huston-Tillotson University, USA<br>Rosa E. Mino, Ph.D \| LinkedIn<br><br>Amanda Masino, Ph.D.<br>Professor and Chair of Natural Science<br>Huston-Tillotson University<br>Amanda Masino \| LinkedIn<br><br>**Team presentation Topic: The Many Roads of Biology** | |
| #4<br><br>11:00-11:20 am<br>QnA: 5mins |  | **Pabel Shahrear, Ph.D.**<br>Professor of Mathematics<br>Shahjalal University of Science and Technology, Bangladesh<br>Pabel Shahrear \| LinkedIn<br>**Topic: A generalization of gene network representation on the Hypercube** |

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| #5<br><br>11:30-11:50 am<br>QnA: 5mins |  | **MATH HAPPENS FOUNDATION, USA**<br><br>Topics: Internship Experiences at MathHappens |
| #6<br><br>12:00-12:45 pm<br>QnA 10 mins |  | **Mary Cantu-Garcia**<br>Student Program Coordinator<br>Walker Department of Mechanical Engineering<br>University of Texas at Austin, USA<br>Topic: Graduate Study in Mechanical Engineering at UT Austin |
| #7<br><br>1:00-1:20 pm<br>QnA 5mins | | **Malick T. Yedjou[1], and Solange S. Tchounwou[2]**<br>*[1]Saint Joseph Catholic School, MS, USA.*<br>*[2]Department of Pathology and Laboratory Medicine. School of Medicine, Tulane University, New Orleans, LA, USA*<br>*Title:* **Using Machine Learning Algorithms to Classify Breast Cancer**. |
| #8<br><br>1:30-1:50 pm<br>QnA 5mins |  | **Javeia Johnson-McCoy**<br>Student Scientist, School of Applied Computational Sciences Meharry Medical College<br><br>Topic: **Exploring the Intersections of STEM, Research, and Small Business Ownership in HBCU Spaces: Enhancing the Collegiate Experience through Mindful Moments.** |

**Day 2 Recording link:**

https://htu-edu.zoom.us/rec/share/NSt9q_J5NuWHbYesnlUeSqW6lJi-Ufc5sikDtHpTy5QKOK_dui_CaUQlpXo5wwVR.qEuGjRRY7C43kHZn

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| Day 3, August 9, 2023; Wednesday | | |
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| #1<br><br>9:00-9:20 am<br>QnA: 5mins |  | **Eileen Slaton, M.Ed.**<br>Faculty, Math,<br>Huston-Tillotson University, USA<br>Department of Mathematics « Huston-Tillotson (htu.edu)<br>**Topic:** 2. **Extended Deadlines – Description; How to Implement in the Classroom; Learning Benefits** |
| #2<br><br>9:30-9:50 am<br>QnA: 5mins |  | **Naznin Sultana, Ph.D.**<br>Clinical Associate Professor, Texas Undergraduate Medical Academy<br>Prairie View A&M University, Prairie View, Texas, USA<br>Naznin Sultana, PhD | LinkedIn<br>**Topic: Synthetic Biomaterial-based Scaffolds for Tissue Regeneration: Cells-Biomaterials Interaction** |
| #3<br><br>10:00-10:20 am<br>QnA: 5mins | | **Kazi Mehedi Mohammad**<br>Department of Mathematics,<br>University of Dhaka, Bangladesh<br>Topic: Clinical data sets and the transmission of Influenza with optimal control: A modeling study |
| #4<br><br>10:30-10:50 am<br>QnA 5mins |  | **Mahbub A. Chowdhury**<br>Student, MATH,<br>Shahjalal University of Science and Technology, Bangladesh<br>Mahbub Ahmed Chowdhury | LinkedIn<br><br>Title: Exploring the Scope and Opportunities of Mathematics in STEME Pathways |
| #5<br><br>11:00-11:20 am<br>QnA 5mins |  | **Bidhayok Sharma  & Suhas Singha**<br>Student, MATH,<br>Shahjalal University of Science and Technology, Bangladesh<br>Bidhayok Sharma | LinkedIn<br>**Topic:  Analysis of the COVID-19 Mathematical Model Based on Vaccine Data: A Descriptive Approach to Eradicate the Outbreak.** |
| #6<br><br>11:30-11:50 am<br>QnA 5mins | | **Mayesha Sharmim Tisha**<br>Department of Mathematics,<br>University of Dhaka, Bangladesh<br>Title: Global analysis of the reaction-diffusion-advection system: resource distribution and spatial heterogeneity |

| #7 12:00-12:20 pm QnA 5mins |  | **MD ARIF HOSSAIN** Department of Mathematics, Shahjalal University of Science and Technology, Bangladesh. **Topic: 1. The Generalization form of the order of an element in a group under addition modulo** |
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| #8 12:30-12:50pm QnA 5 mins | | **Bornali Das** Shahjalal University of Science and Technology, Bangladesh Title: Effects of top-dying disease on leaf anatomical and morphological traits of Heritiera fomes in the Sundarbans. |
| #9 1:00-1:20pm QnA 5 mins |  | **Surakshya K C** Student, CSE Huston-Tillotson University, USA **Title: Trends in Relative Abundance and Size of Selected Fin fishes and Shell fishes along the Texas Coast.** |
| #10 1:30-1:50pm QnA 5mins | | **Nayef Abdulla Khan** Project: Thermal Imaging McNeil High School Austin, TX |

**Day 3 Recording link:**

https://htu-edu.zoom.us/rec/share/9kOF0X9sO7E_1KJ-HlTYZvCnLg21Jp9CVVL-mKUzYzXR16wWP2WeLM_STn16f9I.gyicBPLvE3L34vP0?startTime=1691589250000

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# Day 4, August 10, 2023; Thursday

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| #1<br><br>9:00 – 9:45am<br>QnA 10 mins | **Florence Hudson,**<br>Executive Director,<br>Northeast Big Data Innovation Hub at Columbia University,<br>National Student Data Corps Program<br>Florence (DiStefano) Hudson \| LinkedIn<br><br>**Topic: The National Student Data Corps - Inspiring and Delivering Data Science Education Globally** | **Emily Rothenberg,**<br>Program Coordinator,<br>National Student Data Corps, Columbia University<br>Emily Rothenberg \| LinkedIn |
| #2<br>10:00-10:20 am<br>QnA: 5mins | | **Shaiful Islam Arafat**<br><br>Department of Mathematics, University of Dhaka, Bangladesh<br>Title: Characteristics of the Rössler system |
| #3<br>10:30-10:50 am<br>QnA 5mins | | **Md Raju Sheikh**<br><br>Title: The Indoor Environment Quality (IEQ) of Hospital and Impacts on Patients; A case study in Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh. |
| #4<br>11:00-11:20 am<br>QnA 5mins | | **Rina Paul,**<br>Lecturer, Metropolitan University, Bangladesh<br>Title: Polygonal and Curved Boundary Meshing: An Algorithmic Framework using Quadrilateral and Triangular Finite Elements for Arbitrary Domains. |
| #6<br>12:00-12:20 pm<br>QnA 5mins | | **Ashikur Rahman**<br>**City University**<br>**Title: Effect of the temperature of the electrolyte on the production of Hydrogen, analyzed using an electrolyzed zinc plate.** |

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| #7<br>12:30-12:50pm<br>QnA 5 mins | | **Md. Shafiur Rahman**<br><br>Chemical Engineering & Polymer Science, Shahjalal University of Science & Technology, Bangladesh<br>**Topic: Quantum Materials: Advances, Opportunities & Challenges** |
| #8<br>1:00-1:20pm<br>QnA 5 mins | | **Shaila Sharmin**<br><br>Shahjalal University of Science and Technology, Bangladesh<br><br>**Title: Contribution of local traditional knowledge in developing better preparedness and mitigating natural hazard Induced Risks: A Case Study in Sunamganj.** |
| #9<br><br>1:30-1:50 pm<br>QnA: 5mins | | **Adel Mahmud Zaddary**<br><br>Student, Forestry and Environmental Science, Shahjalal University of Science and Technology, Sylhet.<br><br>**Topic: Understanding the Interplay between Leaf Attributes and Environmental Gradients in Shaping Species Distribution in Tropical Forests: A Critical Review** |

**Day 4   Recording link:**

https://htu-edu.zoom.us/rec/share/Dz3VO0ytOFuOq11xTIBCsJ-gafYVzyVJ2neqU861rPjP4X20H_j9eBKwxibGm3v3.AjW44nABXaxontb0

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| **Day 5, August 11, 2023; Friday** | | |
| #1<br>9:00 – 9:45 am<br>QnA 10 mins |  | **Keatra Nesbitt and Mo Salinas**<br>VALKYRIE.AI<br>**Topic:** VALKYRIE INTELLIGENCE Real World Data Science Applications |
| #2<br>10:00-10:20 am<br>QnA: 5mins | | **Md. Ahosan Habib Ador**<br>Title: Characterization of Plant Growth Promoting Rhizobacteria (PGPR) and their effect on growth parameters of Acacia auriculiformis, Albizia lebbeck and Samanea saman |
| #3<br>10:30-10:50am<br>QnA 5mins |  | **MD ARIF HOSSAIN**<br>Department of Mathematics, Shahjalal University of Science and Technology, Bangladesh.<br>**Topic: 2. Rubik's Cube - An Application of Group Theory** |
| #4<br>11:00-11:20 am<br>QnA: 5mins | | **Md Abdur Rahman**<br>**Shahjalal University of Science and Technology, Bangladesh**<br>**Topic: Identification of Phytopathogens from important trees species in Bangladesh** |
| #5<br>11:30-11:50pm<br>QnA 5mins | | **Abdullah Al Asif**<br>Shahjalal University of Science and Technology, Bangladesh<br>Title: Effects of top-dying disease on wood properties of Heritiera fomes in the Sundarbans. |
| #6<br><br>12:00-12:30 pm<br>QnA: 5mins |  | **Farzana Hussain, Ph.D.**<br>Associate Professor of Math,<br>Huston-Tillotson University, USA<br>Farzana Hussain, Ph.D. | LinkedIn<br>**Topic: 3. Effect of religious beliefs and practices on mental and physical health of elderly patients.** |

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| #8<br><br>**1:00-1:45 pm US Central**<br><br>**12AM Bangladesh**<br><br>QnA: 10mins | **Vineet Srivastava**<br>AI Intern at Harvard University,<br>Dana Farber Cancer Institute<br>Graduate Research Assistant- Department of Psychiatry,<br>The University of Illinois at Chicago, USA.<br><br>**Title: [MindWatch: A Cloud-based AI Solution for Suicide Ideation Detection using Large Language Models](#)** | **Shanta Ghosh**<br>PhD Candidate, Biostatistics<br>The University of Illinois at Chicago, USA |

**Day 5   Recording link:**

**[https://htu-edu.zoom.us/rec/share/AsAc8WuCK6K6lB6NloEfgf2S2WG7zcV7d7wznjr1xTbxCX2-PTbatYX6nWUxzr-2.AfwZ9T14wwrx2vG4](#)**

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**THANK YOU NOTE BELOW…**

Congratulations to all our presenters and participants for making this conference successful. We had the chance to observe the 43 presentations of around 50 presenters in the last 5 days. This conference was totally free and open to all STEME students, faculty, researchers, and non-academic professionals. It created a tremendous opportunity for our students to share their research experiences and ideas with expert people and get feedback from them.

We greatly appreciate our all collaboration partners from Shahjalal University of Science and Technology, Bangladesh SUST, HerWILL - Women Inspired in Life and Leadership, Valkyrie.AI, MATHHAPPENS Foundation, MedStar Health, Charles A. Dana Center and Walker Department of Mechanical Engineering @The University of Texas at Austin, Northeast Big Data Innovation Hub, AIM-AHEAD Consortium, and AI4OPT - AI Institute for Advances in Optimization for their moral and technical support and help. For this conference, **no sponsorship or monetary support was taken from anyone anywhere**. The responses we got from all were outstanding and we are planning to continue this conference every year in a broader way.

Special Thanks to **Florence Hudson** and **Emily Rothenberg for** their wonderful walkthrough presentation with the activities of NEBDHub, also for allowing SUST, HT and HerWILL as members of Northeast Big Data Innovation Hub and NSDC.

Our heartiest thanks to **Keatra Nesbitt and Mo Salinas** from Valkyrie.ai for their presentation and continuous support. Thanks to **Josh Recio,** Charles A. Dana Center, University of Texas at Austin, USA for their presentation and continuous support. **Mary Cantu-Garcia,** Student Program Coordinator, and Prof., Yaguo Wang, Associate Professor, **Walker Department of Mechanical Engineering, University of Texas at Austin, USA.**

**Grateful to Breon Martin**, AI Communications, AI4OPT.  Heartiest thanks to **Bajwa Nomita and Yolanda Sifuyente**, AIM-AHEAD consortium.

My special thanks to **Dr. Pabel Shahrear** (SUST), **Prof. Michael Butros** (Victor Valley College USA), **Prof. John Redden** (College of the Sequoias USA), Prof. **Hoda Tavakoli** (ACC and UT Austin) and my dear student **Deen Mohammad** (SUST) for all the technical and moral support during the 5days of the conference. Thanks to all the participants for their time, support, and patience for non-stop 5 days of the conference. See you all next year! 🙏👍🙏👍🥰🥰

https://www.ai4opt.org/news-events/international-conference-science-technology-engineering-mathematics-education