The Science and Engineering Division of the National Federation of the Blind and the National Association of Blind Students are presenting a joint Zoom conference on how blind college and graduate students, and blind professionals, are succeeding in courses and Careers to do with science, technology, engineering, and mathematics. The Zoom conference link will be the standard NABS Zoom link shown at the bottom of this message. The call will occur at 8 PM EST through 9 PM EST on Sunday, February 25, 2024.

Topics will be of interest for blind students in middle school, high school, college and graduate school and professionals. Parents of blind school-aged children and educators are also welcome.

Currently, the scheduled speakers, topics, talk descriptions, and speaker introductions, are:

# **Opening Remarks:** Lauren Altman, president, National Association of Blind Students, and John Miller, president, Science and Engineering Division (8 PM EST)

# **Speaker:** Ishtiaq Ahmed (8:10 PM EST)

**Title:** Engaging Students with Blindness and Visual Impairments in Mathematics Learning: A Review of Intervention Methodologies

**Abstract:** Students facing blindness or visual impairments (BVIs) encounter significant obstacles in accessing education, particularly in the realm of mathematics, which heavily relies on visual aids like tables, charts, graphs, and diagrams. Effectively addressing the educational needs of students with BVIs in STEM subjects requires thoughtful interventions and adaptive methods. This review provides a comprehensive summary of current intervention methodologies aimed at enhancing Mathematics education for individuals with BVIs. The findings reveal that several approaches can effectively engage BVIs in STEM learning, including print access, speech access, braille access, tactile communication systems, and multimodal access. However, it is noted that these interventions only partially address the accessibility requirements of these students. The results of this review can serve as a valuable starting point for educators and practitioners interested in fostering inclusive Mathematics education for individuals with blindness or visual impairments.

**Speaker Introduction:** Dr. Ishtiaq Ahmed, a Fulbright Fellow, earned his Ph.D. in 2020 at The Ohio State University, USA, with an Interdisciplinary Specialization in Disability Studies. He has always been driven by an abiding passion and an almost obsessive desire to gain knowledge across multiple disciplines. Despite his visual impairment, Dr. Ahmed had no intention of giving up on his dreams of higher education, and he has completed four master's degrees. These include a Master of Philosophy specializing in Special Education, a Master of Arts in English Literature, a Master of Arts in Special Education with an emphasis on Blindness and Visual Impairment, and a Master of Education in Teacher Education.

Dr. Ahmed has over 17 years of teaching experience as an instructor at a high school. He worked as an assistant professor of special education at the University of Education Lahore. He also served as a visiting faculty of Special Education for over five years at a public university and taught classes at both undergraduate and graduate levels. The Higher Education Commission of Pakistan has recognized him as an Approved Ph.D. Supervisor in the discipline of Social Sciences. He is also honored to have presented his work at national and international conferences.

As part of his research, he works on science, technology, engineering, and mathematics (STEM) access for students with visual impairments (SVIs). Having experience as a student and an educator with a visual impairment sparked his curiosity about this field of study. Most of his work focuses on critiquing current pedagogical practices for failing to include and teach STEM subjects to SVIs effectively. Dr. Ahmed genuinely believes that nothing is more important than equal opportunity for everyone. We must offer opportunities to historically underrepresented groups, including those with visual impairments, to diversify STEM fields. His plans involve furthering his research and advancing the inclusion of SVIs in these areas. He is passionate about inspiring youth, especially SVIs, around the world to pursue their dreams.

# **Speaker:** Chelsea Cook (8:25 PM EST)

**Title:** Thinking Outside the Toolbox: How to Leverage Multidisciplinary Resources of your School to Achieve Accessibility Goals

**Abstract:** Studying mathematics as a blind person may seem hard, scary, intimidating, or impossible to you. But in this talk, I will show you that it can be done!

I will tell stories of how I excelled in math classes using the innovative tools and community my university possessed. Even if you attend a school with

more limited resources, creativity and adaptability are great keys to success. I will also give high and low-tech tips for adapting math concepts."

**Speaker Introduction:** Chelsea Cook receive her Bachelor of Science in physics (astronomy and math minors) from Virginia Tech in 2015. She gave a TEDx Talk while in college

about 3D printing and how astronomy can be made accessible. She has interned at NASA, GLAS Education, and the Space Telescope Science Institute. She still

puts her math skills to good use tutoring students at the University of Denver, and loves climbing in the Rocky Mountains."

# **Speaker:** Jonathan Stewart (8:40 PM EST)

**Title:** Tales from a College Senior: Mu Journey going through College for Mechanical Engineering

**Abstract:** This talk will provide insights on my personal experiences as a blind student studying mechanical engineering and theater in college. I will

share details about the challenges I faced during my academic journey and the strategies that helped me overcome them while pursuing drastically different

degrees requiring diverse types of thinking. Additionally, I will discuss my aspirations to work as a mechanical engineer in the entertainment industry,

and how both my majors work together to help lead me towards achieving this goal.

**Speaker Introduction:** Jonathan Stewart is a senior at the University of North Texas studying

mechanical engineering and theater. He is the president of the UNT chapter of the American Society of Mechanical Engineers (ASME) and is actively involved

both on and off-campus. In this talk, he will share his personal journey and experiences in pursuing two drastically different degrees and how he overcame challenges along the way. He will also discuss his aspirations post college graduation.

If you have any questions, please contact Louis Maher (713-444-7838, [ljmaher03@outlook.com](mailto:ljmaher03@outlook.com)).

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# Join Zoom Meeting:

February 25, 2024, 8 PM EST

Zoom Links

<https://zoom.us/j/4678833687#success>

Meeting ID: 467 883 3687

One tap mobile

+13017158592,,4678833687# US (Germantown)

13126266799,,4678833687# US (Chicago)