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# Utilizing Unmanned Aircraft Systems (UAS), Digital Twins and Artificial Intelligence to Improve Bridge Management

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**Wednesday, February 8, 2023**

**Collins Engineers office, 685 Canton Street, Suite 102, Norwood, MA 02062**  
**11:30 AM Registration, Social & Pizza, 12:00 PM - 1:00 PM Presentation**

Bridge inspection and asset management come with inherent challenges in terms of safety, costs, and impact to the traveling public. With advancements in technologies such as UAS, reality modeling, mixed reality, and AI & machine learning there is a significant opportunity for bridge owners to drastically improve the maintenance & operations of bridges using digital twins. In this presentation, we will highlight the process of acquiring a digital twin, connecting the model with its condition and maintenance data to augment the digital twin, and then using mixed reality technology to conduct remote inspections. We believe this process can greatly increase the quality of inspections while minimizing safety risks and reducing overall costs. Furthermore, the increase in the quality of data collected can greatly improve rehab/replace decisions, which can have significant cost savings for bridge operators and the public. Case studies will be presented to illustrate the application of digital twins for bridge inspections and maintenance, and we will also explore opportunities on connecting operations with design to support the entire lifecycle of bridges.

**Registration Deadline: Friday, February 3, 2023**

**In-person: \$45 Members, \$55 Non-Members, \$40 Public Sector Members,**

**\$45 Public Sector Non-Members, \$15 Senior Members (65+) & Students**

**Remote Access: \$15 Members, \$20 Non-Members, \$10 Public Sector Members,**

**\$15 Public Sector Non-Members, \$5 Senior Members (65+) & Students**

**Information/Registration:**

Register to attend this meeting and pay by credit card [here](#). To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a [BSCES Event Registration Form](#) and follow the submission instructions. Cancellations received after Friday, February 3, 2023, and no-shows will be billed.

*Please note that an inherent risk of exposure to COVID-19 exists anywhere other people are present, and even precautionary measures such as masking and social distancing cannot completely eliminate this risk. The Boston Society of Civil Engineers Section/ ASCE (BSCES) encourages any person attending a Society-sponsored in-person activity to be fully vaccinated against COVID-19. In addition, any person who chooses to travel to and/ or participate in any BSCES in-person activity assumes all risks arising from that decision. All participants must agree to comply with all safety procedures established by the Centers for Disease Control and Prevention (CDC) and the Commonwealth of Massachusetts as well as any other protocols put in place by BSCES, the host sites, travel facilities, or any other applicable authorities.*



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