

ABJ50(1) Sensing Technologies Subcommittee Meeting Agenda & Minutes
Monday, Jan. 14th, 2019, 8:00 am – 9:45 am, Marriott Marquis Liberty K room

Co-sponsored by ABJ50, Information Systems and Technology and ABJ60, Geographic Information Science and Applications.

1. Scheduled for Monday, January 14, 2019 from 8:00 am – 9:45 am in Marriott Marquis Liberty K room (M4)
2. Past year activities:
 - a. TRB 2018: Co-sponsored (with ABJ-60) and led Monday 8 am lectern session on “Applications of Unmanned Aerial Systems to Help with Infrastructure”. Four presentations.
 - b. TRB 2019: Dual Sunday workshops – “Unmanned Aircraft Systems (UASs): The Impacts of New Capabilities and New Rules on Integrating UAS into Day-to-Day Use” - <https://annualmeeting.mytrb.org/InteractiveProgram/Details/10949>
 - i. The workshops were co-sponsored by AV000 (Aviation Group), ABJ50, and ABJ60
 - ii. Included 13 of 16 presentations with information on UAS regulations, sensor technologies, applications, DOT user experiences, data quality, and education.
 - iii. About 40 attendees in morning, afternoon sessions
 - c. New call for papers submitted with help from Richard Li (U.Louisville) & Co-Chair Zhong-Ren Peng (UFL) – “Deployment of Sensing Technologies to Meet Transportation Agency Decision Support Needs.”
 - i. Guohui Zhang, U.Hawaii managed paper reviews – “We received 58 papers (15 for presentation only, 3 for publication only, and 40 for both presentation and publication), among which 29 out of 55 papers (about 52%) are considered for presentation, and 9 out of 43 papers (about 21%) are considered for publication.” (In 2018 we had 47 papers & in 2017 it was 46).
 - d. 81 members in Google group (62 in Jan. 2016, 32 in Jan. 2014). Used eight times in 2018 to communicate Subcommittee Activity.
 - e. Web page continued to be updated (UAS workshop info listed) at <http://www.abj50.org/subcommittees/sensing-technologies/>
3. This year’s Sensing Technologies Subcommittee meeting
 - a. 9 attendees
 - b. What is our niche?
 - i. NDT technologies / remote sensing
 - ii. Embedded sensors
 - iii. Connected vehicle sensors
 - iv. UAS-enabled sensing
 - v. Traffic monitoring
 - c. Comments: Private sector doesn’t really know that this kind of workshop & committee exist – participation would be “easy”.
 1. Technologies are changing rapidly – GPR, LiDAR – hard for practitioners to keep up
 2. Vendors want to be pro-active, get information about them & their technologies
 3. Agencies & vendors need to know more about each others’ interests
 4. What to do with outputs? How to use them?
 5. Sensors are cheaper – what to with them?
 - ii. Help share information on new technologies
 1. Technologies:
 - a. GPR
 - b. LiDAR
 - c. Multispectral/hyperspectral
 - d. Thermal

2. Platforms
 - a. Drones / UAS
3. Applications
 - a. Traffic monitoring
 - b. Bridge condition assessment
 - c. Measuring friction – contact measurement – alternatives to tire contact measurement - measure of microtexture – at traffic speed – at least 1/10 mm – mhz rate
- d. Need to find more volunteers to help with subcommittee activities
4. Priorities for the next year?
 - a. Research Needs Statements & NCHRP Problem Statements.
 - i. RNS – “Guidelines for non-destructive sensing for traffic management” - Richard Li (U.Louisville) – comparison of different available technologies – Bluetooth, Wifi, radar, LiDAR, video, CAV – which one(s) are most appropriate – make a new push on this RNS
 - ii. 2018 one – “Evaluating and implementing unmanned aerial systems (UAS) into bridge inspection and management methods” – C.Brooks lead - being considered through AHD35, AASHTO COBS & - needs to be formally evaluated & selected as priority for a RFP through AASHTO process
 1. There’s a definite need for standards on use of UAS in bridge inspection
 2. AASHTO (users), ASTM (vendors), ANSI (new 2018 roadmap)
 - iii. “Determining pavement surface friction properties in a non-contact method at traffic speed” – John Andrews, MDOT-SHA (Maryland) – new idea
 - b. Workshop? – committee level discussion?
 - i. More opportunities for interaction
 - ii. Mix with another topic – like VR
 - iii. Have technologies available for “hands-on”
 - iv. Topic themes:
 1. UAS technologies advances
 2. Cutting-edge technologies for remote sensing
 3. Traffic management technologies
 4. How are sensing data processed & integrated into end use
 - c. Call for papers – did one in 2018, 2017, 2016; not in 2015. Demand seems strong. Continue? Yes. Many thanks to Guohui Zhang of U.Hawaii for organizing reviews for the past two years!
 - d. Webinar? Discussed for past two years, but need someone to take the lead. New topics?
 - i. Jarlath O’Neil-Dunne, U.Vermont (Aug. 19, 2018 Google Group message) – “I would be happy to sign up for one that focuses on the organizational challenges of implementing UAS technology.”
 1. Cristian Druta – VTTI interest
 - ii. Yu Yan, Senses Global Labs (Dec. 11, 2018 Google Group message) – “If you are interested in having a webinar on VR/AR for Transportation in 2019, I can help. I am serving as the Chair of IEEE VR/AR Working Group, the Chair of IEEE VR/AR Advisory Board, as well as the Chair of IEEE Standards Coordinating Committee on Transportation. My committees could assist with the webinar by providing speakers and content. Thanks a lot.”
 1. Integrate other VR/AR work being done at Universities & DOTs as well
 2. Differentiate from other recent VR webinar
 3. Devin Harris (UVA) interest