

## Toronto March 2021

**T**he March Toronto Section meeting titled “ATSC 3.0 in 2021” was held in March 2021 and moderated by SMPTE Toronto Section Chair, Tony Meerakker. Orest Sushko from the Humber Broadcast-Broadband Convergence Lab in Toronto opened the meeting. Humber has launched an initiative

to create an environment for real-world ATSC 3.0 testing, with plans to aid in the analysis of various applications introduced into the broadcast radio frequency (RF) environment, including integration with 5G networks. They plan to drive the research into Advanced Television Systems Committee (ATSC) 3.0 adoption in Canada.

The second presentation was given by ATSC president, Madeleine Noland, who discussed ATSC 3.0 and why it is such an innovative standards suite. Created by more

than 400 engineers throughout the world, ATSC 3.0 is a state-of-the-art standard designed to add value to the broadcast industry, recognizing that broadcast towers are “not just TV anymore.” ATSC 3.0 enables all television broadcasts to be delivered via Internet Protocol (IP), albeit in a unidirectional fashion. At the application level, it also uses a variety of existing technologies such as HTML5, CSS, and JavaScript.

Next, Mark Korl from Triveni Digital, discussed his company’s creation of an interactive environment within ATSC 3.0. The aim is to enhance the viewer/user experience, build stronger relationships with them, and provide a more personalized offering that includes personalized ads and content. Korl provided an overview of A/244, ATSC 3.0 Interactive Content, and ATSC 3.0 standard A/338, discussing signaling, delivery, synchronization, and error protection, service announcement such as electronic programming guides, content recovery in redistribution scenarios, watermarking, application event delivery, security, and more.

Yiyan Wu chief technology officer at the Communications Research Centre, explained the latest RF-based techniques used in ATSC 3.0, which are bringing ATSC 3.0 closer to the Shannon limit than similar contemporary technologies such as 4F and 5G new radio (NR). These technologies include low-density parity codes (LDPC), which have been in DVB-S2 and DVB-T2 for a long time but also nonuniform

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constellations such as 4096NUC-QAM, as well as Canadian invented layered-division-multiplexing (LDM) that can efficiently combine robust mobile and high data rate service on top of each other on a single TV channel.

The final presenter was Anne Schelle who works for Pearl TV and

serves as board chair of the ATSC 3.0 Security Alliance. Schelle stated that the number of markets announcing ATSC 3.0 deployment in 2021 is more than double that of 2020. Internally, the projected TV shipping numbers with ATSC 3.0 are positive, and the economics for

NextGen receiver inclusion are better than before.

The entire meeting can be viewed on the Toronto Section YouTube channel [https://www.youtube.com/watch?v=qS\\_UexIQGos](https://www.youtube.com/watch?v=qS_UexIQGos)

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