The 2018 Joint Rail Conference

The 2018 Joint Rail Conference (JRC) was held at the Omni William Penn Hotel in downtown Pittsburgh, Pennsylvania, 18–20 April. This year, the 2018 JRC was led by the IEEE Vehicular Technology Society (VTS) Land Transportation Division, chaired by IEEE VTS Vice President David Thurston. The theme for this year was “Innovations That Move Commerce and People” to highlight the multidisciplinary event covering both freight and passenger rail transports. Also, the conference schedule was slightly different from the usual order, starting with the welcome luncheon on 18 April and concluding with two special technical tours on the morning of 20 April. The welcome luncheon featured a plenary speech by Prof. Piervincenzo Rizzo of the University of Pittsburgh as a contribution from the local academic institution. Technical sessions began in the afternoon of 18 April. The technical program was organized into ten tracks with more than 100 papers covering a wide spectrum of technical interests:

- Track 1: Railroad Infrastructure Engineering
- Track 2: Rail Equipment Engineering
- Track 3: Signal and Train Control Engineering
- Track 4: Service Quality and Operations Research
- Track 5: Planning and Development
- Track 6: Safety and Security
- Track 7: Energy Efficiency and Sustainability
- Track 8: Urban Passenger Rail Transport
- Track 9: Electrification
- Track 10: Vehicle Track Interaction.

With various topics from technical fields of mechanical engineering, electrical engineering, and civil engineering, the conference had more than 100 papers presented by authors from Belgium, Brazil, Canada, China, France, Germany, India, Italy, Morocco, South Africa, Sweden, the United Kingdom, and the United States. More than 150 people registered for the conference, making its turnout better than expected. As such, paper presentations were organized with up to six concurrent technical sessions. Most electrical engineering papers were presented in Tracks 3 and 9, yet there were papers in Tracks 6 and 7 that also involved technologies and applications that would be interesting to readers IEEE Vehicular Technology Magazine. For example, a paper in Track 6, “Improving Beamforming Technique for Ultrasonic Rail Detect Imaging,” addressed techniques similar to those used in wireless communication. Also, two papers in Track 7, “WMATA Wayside Energy Storage Demonstration Project” and “Tri-Met MAX Energy Storage Substation—Updates on Commissioning Optimization and Operating Experience,” could have been accepted to be presented in Track 9 as well.

Thurston arranged a very special conference banquet at PNC Park, which is the baseball stadium for the Pittsburgh Pirates. A guided tour of

Figure 1 The PNC Park media room tour.
the stadium was given before the banquet reception. Attendees were able to tour the players’ locker room, batting and pitching practice area, media room (Figures 1 and 2), and dugout (Figure 3).

The 2018 JRC banquet began with the opening address by Thurston (Figure 4), followed by a keynote speech by Paul Skoutelas, president and chief executive officer of the American Public Transportation Association (Figure 5). The highlights of the 2018 JRC continued with two technical tours on 20 April. One tour was to the McConway and Torley facility, a foundry that was one of the railroad industry’s first supplier of steel casting, and the manufacturer of the industry’s first automatic couplers. Today, McConway and Torley continues to be the leading manufacturer of standard couplers and car-connecting systems in the world. The other tour was to the Monongahela Incline (Figure 6). It is one of the two remaining inclines still in service and the oldest continuously operating funicular in the United States.

As usual, a couple of articles from Tracks 3 and 9 were selected for publication in this issue of IEEE Vehicular Technology Magazine. One article, selected from Track 3, is “Positive Train Control Security” by Satish Kolli, Joshua Lilly, and Duminda Wijesekera. The other article, selected from Track 9, is “Electric Transmission for High-Speed Rail” by Frank J. Smith. Both articles were well received during their presentation at the conference and were highly recommended by the respective track chairs.

The 2019 JRC will be held in Snowbird, Utah, near Salt Lake City, to celebrate the 150-year anniversary of the Gold Spike, the ceremonial completion of the first Transcontinental Railroad across the United States in 1869. The conference venue was chosen to be near the Promontory Summit so that tours can be arranged to the historic site. Details can be

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**Figure 5** American Public Transportation Association President and Chief Executive Officer Paul Skoutelas delivers the banquet keynote speech.

**Figure 6** 2018 JRC attendees visit the Monongahela Incline.

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