

IEEE ComSoc DLT Trip Report

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I took a Distinguished Lecturer Tour (DLT) to Toronto, South Alberta, and Vancouver Chapters during July 13 to Aug. 10, 2018.

During the DLT, I gave the talk “Integration of Electric Vehicles in Smart Grid” in the following three universities.

- University of Toronto, Canada
- University of Calgary, Canada
- University of British Columbia, Canada

The talk mainly discusses two topics: online optimal electric vehicle charging control and battery energy storage for primary frequency control. In particular, the first topic discusses scalable algorithms that minimize the total charging cost when the information about future EV arrivals is not available. Likewise, the second topic shows that the optimal battery operation strategy that maximizes the profit in the primary frequency control market is a threshold-based strategy. This greatly simplifies the computation and operation.

The talk was well attended in all three universities. Not only faculty members and students showed up, audience from industry also attended the talk. It led to fruitful discussions both between the audience and me, and among the audience. I find the DLT quite rewarding.

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