

## **IEEE Communications Society Distinguished Lecture Tour: 1<sup>st</sup> stop** **D2D: Research Trends and Future Perspectives**

Nei Kato, Tohoku University, Japan

**Date:** July 15, 2015 (Wednesday)  
**Time:** 2:30 pm (refreshment starts at 2:15pm)  
**Place:** 202 ECEC, NJIT

### **About the Speaker**



**Nei Kato** received his Bachelor Degree from Polytechnic University, Japan, in 1986, and M.S. and Ph.D. Degrees in information engineering from Tohoku University, in 1988 and 1991, respectively. He joined Computer Center of Tohoku University as an assistant professor in 1991, and was promoted to full professor at the Graduate School of Information Sciences, Tohoku University, in 2003. He became a Strategic Adviser to the President of Tohoku University in 2013. He has been engaged in research on computer networking, wireless mobile communications, satellite communications, ad hoc & sensor & mesh networks, smart grid, and pattern recognition. He has published more than 300 papers in peer-reviewed journals and conference proceedings. He currently serves as a Member-at-Large on the Board of Governors, IEEE Communications Society (ComSoc), the Chair of ComSoc Ad Hoc & Sensor Networks Technical Committee, the Chair of IEEE ComSoc Sendai Chapter, the Editor-in-Chief of IEEE Network Magazine (from 1st July, 2015), the Associate Editor-in-Chief of IEEE Internet of Things Journal, and an Area Editor of IEEE Transactions on Vehicular Technology. Nei Kato is a Distinguished Lecturer of IEEE Communications Society and Vehicular Technology Society. He is a fellow of IEEE and IEICE.

### **About the Talk** (registration: [https://meetings.vtools.ieee.org/meeting\\_registration/register/34688](https://meetings.vtools.ieee.org/meeting_registration/register/34688))

Driven by the proliferous development of media-hungry handheld devices and online applications, there has been an unprecedented consumer demand for faster and cheaper mobile broadband access. Given the impossibility of meeting this demand by simply adding spectrum, researchers around the globe are bending over backwards to squeeze out more data bits from the limited available frequency resources. Among various efforts towards this end, device-to-device (D2D) communications, which allows mobile UEs in proximity to communicate directly via licensed/unlicensed band with/without the support from the operator, has gained intensive research interests from academia, industry, and standard bodies. In this talk, I will showcase the potentials of D2D communications to improve system capacity, enhance spectral efficiency, increase coverage and connectivity, and identify the new challenges to co-existence and network management. In particular, I will introduce the applications of D2D for traffic relaying in disaster relief, and for load balancing in futuristic wireless networks. Finally, new research directions will be delineated.

**Sponsors:** **IEEE Communications Society North Jersey Chapter**  
**NJIT Department of Electrical and Computer Engineering**

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