



## Dr John Haine

Visiting Professor

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## Biography

I graduated in 1971 from Birmingham University and took my PhD in microwave circuit theory in 1977 at Leeds University. I have worked in industry for all my career, in large companies including BT, Marconi and Motorola; technical consultancies including PA Technology and Scientific Generics; and start-ups including Cognito, Ionica, ip.access, and Cognovo.

Cognovo was acquired by u-blox AG of Switzerland in 2012 and I retired from u-blox in 2016 after working on the early development of what became the 3GPP NB-IoT standard and developing the world's first modules supporting it. Also at u-blox I led a cooperation with the Bristol University CDT in Communications and the CSN group in novel circuit and system methods for duplexing in cellular terminals.

From 2015 I was Royal Academy of Engineering Visiting Professor in the Department, and I now chair the CDT Industrial Advisory Board. In 2015 I was appointed the first chairman of the IoT Security Foundation, and I still serve on its Executive Steering Board as a director emeritus. I am a life member of the IEEE. I chair the editorial panel of the Cambridge Wireless Journal.

## Memberships

### Organisations

[Department of Electrical & Electronic Engineering](#)

### Other sites

- [Eeng](#)

## Recent publications

- Laughlin, L, Zhang, C(, Beach, M, Morris, K & Haine, J, 2019, '[Minimum Downlink Band Duplex Isolation Requirements for LTE User Equipment](#)'. in: *2019 IEEE International Conference on Communications Workshops (ICC Workshops)*. Institute of Electrical and Electronics Engineers (IEEE)
- Laughlin, L, Zhang, C(, Beach, M, Morris, K & Haine, J, 2019, '[Tunable Duplexers: Downlink Band Isolation Requirements for LTE User Equipment](#)'. *IEEE Wireless Communications Letters*, vol 8., pp. 1349-1352
- Paredes, DR, Beach, M, Mellios, E, Haine, J & Rumney, M, 2019, '[Over-the-Air Test Method for 5G mmWave Devices with Beamforming Capabilities](#)'. in: *2018 IEEE Globecom Workshops (GC Wkshps)*.
- Laughlin, L, Zhang, C, Beach, MA, Morris, KA, Haine, JL, Khan, MK & McCullagh, M, 2018, '[Tunable Frequency-Division Duplex RF Front End Using Electrical Balance and Active Cancellation](#)'. *IEEE Transactions on Microwave Theory and Techniques*, vol 66., pp. 5812-5824
- Zhang, C, Laughlin, L, Beach, MA, Morris, KA & Haine, JL, 2018, '[Phase Noise in Full-Duplex Radios Using Off-the-Shelf Oscillators](#)'. *IEEE Wireless Communications Letters*, vol 7., pp. 206-209
- Laughlin, L, Zhang, C, Beach, MA, Morris, KA, Haine, JL & Khan, MK, 2018, '[A 700-950 MHz Tunable Frequency Division Duplex Transceiver Combining Passive and Active Self-interference Cancellation](#)'. in: *2018 IEEE MTT-S International Microwave Symposium (IMS 2018): Proceedings of a meeting held 10-15 June 2018, Philadelphia, Pennsylvania, USA*. Institute of Electrical and Electronics Engineers (IEEE), pp. 1207-1210
- Laughlin, L, Zhang, C(, Beach, M, Morris, K & Haine, J, 2017, '[Dynamic Performance of Electrical Balance Duplexing in a Vehicular Scenario](#)'. *IEEE Antennas and Wireless Propagation Letters*, vol 16., pp. 844-847

- Laughlin, L, Zhang, C, Beach, M, Morris, K & Haine, J, 2017, '[Electrical Balance Duplexer Field Trials in High-Speed Rail Scenarios](#)'. *IEEE Transactions on Antennas and Propagation*, vol 65., pp. 6068-6075
- Zhang, C, Laughlin, L, Beach, M, Morris, K & Haine, J, 2016, '[Micro-Electromechanical impedance control for Electrical Balance Duplexing](#)'. in: Marcos Katz (eds) *European Wireless 2016: 22th European Wireless Conference: 18-20 May 2016, University of Oulu, Finland*. VDE Verlag
- Laughlin, L, Zhang, C, Beach, MA, Morris, KA & Haine, JL, 2016, '[Passive and Active Electrical Balance Duplexers](#)'. *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol 63., pp. 94-98

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