



## Selected Areas in Communications Symposium Nanoscale, Molecular, and Quantum Networking Track

### Symposium Chair

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The 2015 IEEE International Conference on Communications (ICC) will be held in London, UK from 8-12 June 2015. Themed “Smart City & Smart World,” with its proximity to Tech City, the fastest growing technology cluster in Europe, this flagship conference of IEEE Communications Society will feature a comprehensive technical program including twelve Symposia and a number of Tutorials and Workshops. IEEE ICC 2015 will also include an exceptional Industry Forum & Exhibition program including business panels and keynote speakers. We invite you to submit your original technical papers, and industry forum, workshop, and tutorial proposals to this event. Accepted and presented papers will be published in the IEEE ICC 2015 Conference Proceedings and submitted for inclusion in IEEE Xplore®/IEEE Digital Library. Full details of submission procedures are available at <http://www.ieee-icc.org/2015>.

### Scope and Topics of Interest

As a result of recent advances in MEMS/NEMS and systems biology, as well as the emergence of synthetic bacteria and lab/process-on-a-chip techniques, it is now possible to design chemical “circuits”, custom organisms, micro/nanoscale swarms of devices, and a host of other new systems at small length scales, and across multiple scales (e.g., micro to macro). This success opens up a new frontier for interdisciplinary communications techniques using chemistry, biology, and other principles that have not been considered in the communications literature.

This track is devoted to the principles, design, and analysis of communication systems that use physics beyond classical electromagnetism, particularly for small-scale and multi-scale applications. This includes: molecular, quantum, and other physical, chemical and biological (and biologically-inspired) techniques; as well as new communication techniques at these scales.

The track solicits research articles on one or more of the following topics:

- Mathematical modelling
- Information/communication-theoretic or network-theoretic analysis
- Networking
- Implementations and laboratory experiments
- Industrial applications
- Information/communication theory for analysis of biological systems
- Communication processes or networks in biology

Contributions on related topics would also be considered for publication. Contributions from researchers outside the IEEE’s typical audience are encouraged.

## Submission Guidelines

Prospective authors are invited to submit original technical papers by the deadline 15 October 2014 for publication in the IEEE ICC 2015 Conference Proceedings. All submissions should be written in English with a maximum paper length of Six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over length page charge if accepted).

**Standard IEEE Transactions templates for Microsoft Word or LaTeX formats found at**

<http://www.ieee.org/portal/pages/pubs/transactions/stylesheets.html>

**Alternatively you can follow the sample instructions in template.pdf at**

<http://www.comsoc.org/confs/globecom/2008/downloads/template.pdf>

**Only PDF files will be accepted for the review process and all submissions must be done through EDAS at**

<https://edas.info/newPaper.php?c=17743&track=57955>

## Chair Biography

**Andrew Eckford** is an Associate Professor in the Department of Electrical Engineering and Computer Science at York University, Toronto, Ontario. He received the B.Eng. degree from the Royal Military College of Canada in 1996, and the M.A.Sc. and Ph.D. degrees from the University of Toronto in 1999 and 2004, respectively, all in Electrical Engineering. Andrew held postdoctoral fellowships at the University of Notre Dame and the University of Toronto, prior to taking up a faculty position at York in 2006.

Andrew's research interests include the application of information theory to nonconventional channels and systems, especially the use of molecular and biological means to communicate. Andrew serves as Chair of the IEEE ComSoc Emerging Technologies Subcommittee on nanocommunications, and is the vice-chair of the IEEE 1906.1 standards working group, the first IEEE standard on nanoscale networking. Andrew was also the General Chair of the 2013 13th Canadian Workshop on Information Theory, and served as a track editor on the IEEE JSAC 2013 special issue on emerging technologies. Andrew is also a co-author of the textbook *Molecular Communication*, published by Cambridge University Press, and his research on molecular communication has been covered in media including the *Wall Street Journal*, *Slate*, and *CTV News*.