Call for Papers
IEEE Transactions on Vehicular Technology
Special Section: Self-Organizing Radio Networks

In recent years, there has been an increasing interest in the self-organizing network (SON) paradigm applied to wireless communications networks. For example, the Next Generation Mobile Network (NGNM) Alliance of leading mobile network operators put strong emphasis on SON as the enabler for efficient operation of current and future mobile networks, both in terms of increased performance and reduction of management efforts. SON includes functions such as self-configuration, self-optimization and self-healing. Self-configuration concerns automated and efficient deployment and initial configuration of new network elements, including software upgrades and management of unique identifiers. Self-optimization takes over when the network element is configured by adapting radio network parameters and configurations in order to meet local radio conditions and to co-exist with other network elements in an efficient manner, both from a node perspective, but also from a user perspective. Disruptive events may occur, which is handled by self-healing mechanisms aiming at promptly reducing the impact of the failure as much as possible. Recent focus includes research on coordination of multiple SON functions, inter radio access technology SON and coverage and capacity optimization. The radio network SON is also subject to standardization efforts in 3GPP as well as the topic of several EU FP7 research projects like the recently finalized SOCRATES and E3 projects, and the ongoing project UniverSelf. In 2011 and in conjunction with IEEE Vehicular Technology Conference Spring in Budapest, the first International Workshop on Self-Organizing Networks (IWSON) was held, being the first SON workshop with a dedicated radio network focus.

This special section of the IEEE Transactions on Vehicular Technology aims at the study of most recent achievements in SON, the presentation of solutions to remaining challenges, and furthermore the investigation of significant potentials of SON to be of use in the deployment of future mobile wireless networks. Topics of interest for this special section include, but are not limited to:

- Self-Configuration:
  - Plug-and-play, mechanisms for network densification and heterogeneous networks, inter-RAT and inter-frequency neighbor relations, identity management
- Self-Optimization:
  - Inter-RAT and inter-frequency load balancing and mobility robustness optimization, Interference management, quality-of-service-management
  - Coverage and capacity optimization including adaptive antennas, tracking area optimization
  - Energy savings mechanisms
  - Shared networks, multi-RAT, multi-frequency, multi-layer, heterogeneous networks, centralized and decentralized SON
  - Parameter tuning of various radio resource management (RRM) functions
- Self-Healing: Cell outage detection and compensation in multi-RAT scenarios
- Supporting SON functions and technologies:
  - Real-time performance monitoring,
  - Integration of multiple SON functions / SON coordination
  - Policy-based management in mobile wireless networks
  - Capacity management
  - Minimization of drive tests, mobile localization
- Field trials and demonstrators
  - Test bed activities and experience from field trials
  - Field performance of SON features implemented in products

Paper Submission:
Authors should follow the IEEE TVT manuscript format and submission procedure which can be found at the IEEE TVT home page http://transactions. vtsociety.org/ under Information for Authors. Prospective authors should submit a PDF version of their complete manuscript via the journal online paper submission system at http://mc.manuscriptcentral.com/tvt-ieee

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- Revision deadline: September 30, 2012
- Notification of Acceptance: November 30, 2012
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Guest Editors:

Fredrik Gunnarsson Ericsson Research, Ericsson AB, Box 1248, SE–581 12 Linköping, Sweden. E-mail: fredrik.gunnarsson@ericsson.com	**Thomas Kürner** Institut für Nachrichtentechnik, Technische Universität Braunschweig, Schleinitzstr. 22, D-38092 Braunschweig, Germany. E-Mail: t.kuerner@tu-bs.de
Christoph Schmelz Nokia Siemens Networks, St.-Martin-Strasse 76, D-81541 Munich, Germany. E-mail: christoph.schmelz@nsn.com	