

IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II: EXPRESS BRIEFS

CALL FOR PAPERS

Special Issue on

ENERGY-HARVESTING/SCAVENGING CIRCUITS AND SYSTEMS

The potential application space for mobile devices like wireless sensors is expansive, from reconnaissance mission work and remote sensors to biomedical implants and disposable consumer products. Conforming to the space and cost constraints of portable applications, however, limit energy and power to such an extent that sustaining critical power-hungry functions like wireless telecommunication is problematical. Harvesting or scavenging ambient energy from motion, heat, light, electromagnetic radiation, wind, and other sources offers an appealing alternative, but only when sourced transducer power can exceed overall transfer- and management-related power losses in the system. Emerging energy-harvesting/scavenging microelectronic solutions must therefore strive to (i) increase the power that transducers generate, (ii) decrease the power lost across the system, (iii) extend the single-charge and overall operational life of small secondary batteries in the system, (iv) shrink the overall size of the system, (v) improve regulation accuracy and management performance of constituent subsystems, and similarly, (vi) address and improve other equally challenging and important aspects of the system.

This Special Issue on *Energy-Harvesting/Scavenging Circuits and Systems* calls for contributions in the following areas:

- Convert, manage, and/or condition ambient energy (from motion, heat, light, radiation, etc.) and/or power to charge and/or supply one or several loads;
- Increase transducer conversion efficiency and output power;
- Reduce energy-transfer, charging, and management power losses;
- Improve lifetime performance;
- Shrink overall system dimensions;
- Improve regulation and management performance of constituent subsystems;
- Adapt to changing operating conditions;
- And other issues related to harvesting and scavenging energy from the surrounding environment.

Submission Guidelines: All submitted manuscripts must (i) conform to TCAS II's normal formatting requirements and page-count limits (at no more than 5 pages); (ii) incorporate no less than 60% of new (previously unpublished) material; (iii) validate principal claims with experimental results and all secondary, difficult-to-test claims with simulations; and (iv) be submitted on line at <http://tcas2.polito.it/Forms/Authors/index.html>. Please note that you need to select "Special Issue Energy-Harvesting/Scavenging Circuits and Systems" when you submit a paper to this Special Issue.

Timeline and Review Process: The tentative publication date for this Special Issue is December of 2011 so prospective authors must submit their manuscripts by no later than **May 1, 2011**. Once submitted, manuscripts will undergo IEEE's standard peer-review process for TCAS II by July 15, 2011. Authors must subsequently submit revised manuscripts no later than August 15, 2011.

Guest Editor

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