Wireless sensor networks (WSNs) are a fundamental building-block of the upcoming Internet of Things, as they enable seamless integration of the digital and physical worlds. Despite the interest raised by this decade-old research topic, the development of WSN software is still carried out in a rather primitive fashion, by building software directly atop the operating system and by relying on the individual, hard-earned programming skills. WSN developers must face not only the functional application requirements but also a number of challenging, non-functional requirements and constraints resulting from scarce resources. The heterogeneity of network nodes, the unpredictable environmental influences, and the large size of the network further add to the difficulties.

In the WSN community there is a growing awareness of the need for methodologies, techniques, and abstractions that simplify the development task and increase the confidence in the correctness and performance of the resulting software. Software engineering (SE) support is therefore sought, not only to ease the development task but also to make it more reliable, dependable, and repeatable. Nevertheless, this topic has received so far very little attention by the SE community.

The aim of SESENA11 is to attract researchers belonging to both the SE and WSN communities, not only to exchange their recent research results on the topic, but also to stimulate discussion about the core open problems and to define a shared research agenda. The workshop welcomes both research contributions and position statements. The former will allow discussing in technical depth novel results with an audience composed of both SE and WSN researchers. The latter will provide the opportunity for presenting open problems, provocative views, or previously-unexplored ideas in an informal fashion. SESENA11 will also include a “speakers’ corner” session composed by impromptu presentations where any of the attendees (including those without an accepted paper) will be given a chance to present their own views in very short statements (e.g., 2-4 minutes).

Topics of Interest
The workshop solicits contributions including, but not limited to, the following aspects of SE for sensor networks:

• (macro)programming languages and compilers;
• testing and debugging;
• formal verification and model checking;
• model-driven approaches;
• interfacing WSNs and business software.

Submissions
Prospective participants are invited to submit research or position papers containing original unpublished material describing ongoing work and new ideas, mature research results, or experience reports. Submissions must conform to the ICSE submission format and rules (see http://2011.icse-conferences.org/content/submission-guidelines). Research papers may not exceed 6 pages, position papers must be limited to 2 pages.

Papers must be submitted electronically through CyberChairPro at http://cyberchairpro.borbala.net/seesenapapers/submit. The program committee will review all submissions for quality, relevance, and their potential to trigger discussions at the workshop. Accepted papers will be published in the ICSE companion proceedings and on the workshop web site.

Important Dates
Paper submission: Extended to January 28th, 2011
Notification: February 26th, 2011
Camera ready version: March 10th, 2011
Workshop: May 22nd, 2011

General Chairs
Kurt Geihs, University of Kassel, Germany
Kay Römer, University of Lübeck, Germany & ETH Zürich, Switzerland

Program Chairs
Luca Mottola, Swedish Institute of Computer Science
Gian Pietro Picco, University of Trento, Italy

Program Committee (Tentative)
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