In this issue

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In this issue, we have a special section with research papers related to the theme of software clones, a very important topic to software engineers and anyone concerned with software quality. I am very grateful to the guest editors, Nils Göde, Yoshiki Higo, and Rainer Koschke, for all their hard work in managing the selection and reviews of these two papers. The guest editors have provided an informative introduction to guide your reading of these papers.

The special section is followed by three regular research papers. The first two of these are united by the common theme of defects. The first of these, “On the use of design defect examples to detect model refactoring opportunities” by Adnane Ghannem, Ghizlane El Boussaidi, and Marouane Kessentini, proposes a genetic algorithm approach to find design defects in UML class diagrams. The approach was implemented and tested using four open-source projects. It was found to be consistent and to have high precision and recall averages.

In “A quantitative analysis of the unit verification perspective on fault distributions in complex software systems: an operational replication,” Tihana Galinac Grbac, Per Runeson, and Darko Huljenic discuss the theory of fault distributions in the context of unit testing. Some interesting patterns for fault distributions were observed. In particular, the authors found that the Pareto principle for the distribution of software faults across the modules under investigation was confirmed. The authors’ findings may help in the construction of a theory for fault distribution during software testing, which would be highly significant to industry.

Software process improvement plays an important role in improving and assuring the quality of software products. The paper “Software SMEs’ Unofficial Readiness for CMMI®-based Software Process Improvement” by Javed Iqbal, Rodina Binti Ahmad, Mohd Hairu Nizam Md Nasir, Mahmood Niazi, Shahaboddin Shamshirband, and Muhammad Asim Noor discusses the unofficial adoption of CMMI practices by small and medium-size software companies. The results of two surveys carried out in Malaysia and Pakistan are reported. The authors found that many companies that have not achieved any CMMI level officially nevertheless do still unofficially follow many of the practices of CMMI level 2. This seems

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to suggest that there is considerable willingness and potential for software process improvement via the CMMI model in such companies.

As always, please let me know if you have any suggestions or comments on this issue: I can be emailed at rachel.harrison@brookes.ac.uk.