

EDITORIAL

This special issue of the *European Journal of Electrical Engineering* (EJEE) includes seven selected papers from the first edition of the International Conference on Science and Electrical Technology in the Maghreb (CISTEM). These papers were presented in Tunis (Tunisia) between 3th and 6th November 2014.

With CISTEM, academics in the Maghreb hold a structuring and federative action offering a privileged place for scientific exchange in the field of electronic and electrical engineering. CISTEM tends to strengthen those ties inside the Maghreb and between academics from North Africa and the international community. It is in this perspective that the CISTEM conference has been established. Main scopes of the conference span all facets of electronic and electrical engineering: signal processing, electronic and electrical components and systems design and analysis, and magnetic materials.

The seven selected contributions include two papers on electrical machines. The first one deals with the hybrid modeling, based on a direct coupling of analytical solution of Maxwell's equations and reluctance networks, of a permanent magnet radial field machine. The second one concerns the multi-physics modeling and design of a wind generator. The third paper presents the study of transformers behavior, another important component of the energy conversion. The article is rather focused on the study of the liquid insulation degradation, and behavior, subject to electric shocks and temperature variations throughout the transformer lifetime. The authors presented the effects on the physicochemical properties of three mineral oils used for transformers insulation. Always in the field of insulation, the fourth article sheds light on solid insulation with a polymer called PI (polyimide). This polymer is appreciated for its electrical properties and especially for its thermal qualities. Finally, the last three articles deal with the behavior and management of electricity networks when variable sources or loads are introduced.

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