Editor's Note

This issue of the journal Microwave Review is focused mainly on the artificial neural network (ANN) applications in microwaves. With a shift in the microwave design to the statistically-oriented design techniques, yield optimisation, "reduced time to market" trends, etc., ANNs have been becoming one of the most useful tools, combining the accuracy together with the efficiency and ease of implementation. Recently, the ANN approach has been successfully applied to a variety of problems in the field of modeling of microwave components, circuits, and systems. The rest of the topics in this issue include microwave antennas, microwave applications of metamaterials, etc.

In addition to the previously unpublished papers, there are several ones, whose contents were partly presented at international conferences TELSIKS 2005 and ICEST 2005, both held in Niš, Serbia and Montenegro. Actually, these papers are modified versions of the conference papers, recommended for publishing in the journal by the session chairmen.

The first paper comes from Czech Republic and the authors are P. Šmíd and Z. Raida. The paper describes the methodology of the automated creation of neural models of microwave structures. The procedure is illustrated by an example of developing the neural model of a planar low-pass filter. In the second paper written by N. Türker, F. Güneş, and T. Yildirim from Turkey, a general design procedure for the microstrip antennas using ANNs is suggested and demonstrated by an example of a rectangular patch microstrip antenna. It is an invited paper previously presented at International Conference on Electrical and Electronics Engineering, held on 7-11 December 2005 in Bursa, Turkey. E. R. Srinidhi, A. Ahmed, and G. Kompa from Germany are authors of the third paper focused on the ANN applications. The paper discusses the performance comparison of a model based on time delay neural network (TDNN) and a memory polynomial (MP) model for modeling the dynamic nonlinear input-output characteristics of power amplifier (PA) with memory. This is a modified version of a paper by same authors, presented at the conference TELSIKS 2005. In the fourth paper by Z. Marinković, A. Stošić, V. Marković, and O. Pronić from Serbia and Montenegro, the application of ANNs for the bias-dependent modeling of S parameters of microwave FETs and HBTs is presented. The part related to the HBT modeling, of this comprehensive paper, was previously presented at the conference ICEST 2005. The next paper presents the ANN models for RF electromagnetic field strength prediction. The authors are B. Milovanović, Z. Stanković, M. Sarevska, and A. Jovanović from Serbia and Montenegro. This is a modified version of a selected conference paper (ICEST 2005).

After these five papers comprising the ANN applications, there are two papers focused to some other up-to-date topics in the microwave field. The papers with similar contents were previously presented at TELSIKS 2005. The first one by M. Slović, B. Jokanović, and B. Kolundžija from Serbia and Montenegro presents the design of a high efficiency patch antenna for anticollision radar at 24GHz. The second one, written by Z. Jakšić and M. Maksimović from Serbia and Montenegro and N. Dalarsson from Sweden, gives an overview of negative refractive index metamaterials where special attention is paid to the microwave applications. The scientific papers are followed with a report on MTT-S chapter of Serbia & Montenegro activities in 2005, information about the chapter's Web site, as well as *Announcement and call for papers* for the 6th International Symposium "Nikola Tesla."

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The prospective authors are kindly invited to send their manuscripts for publishing in next issues of Microwave Review.

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