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PRINCIPAL DIRECTION IN FUNDAMENTAL RESEARCH

All my researches up to now have been focused on the synthesis and properties of semiconducting polymers – mainly polyaniline, polypyrrole and poly(3,4-ethylenedioxythiophene). As is well known achieving of ordering in semi-conducting polymer which determines their performance in electronic, electrochemical and photonic applications remains a true challenge. Last few years I have been working on the understanding the nature of the driving force of polyaniline and poly(3,4-ethylenedioxythiophene) ordering. Also, I have been used electrochemical and spectro-electrochemical methods (cyclic voltammetry, galvanostatic charge/discharge, electrochemical impedance spectroscopy etc.) to characterize pseudocapacitive performance of conducting polymers. Influence of different ions (their position in Hofmeister series) on electrochemical performance is also studied. I, also, work in the direction of new methods of polymer synthesis, particularly application of acid-assisted method. Moreover, my research is focused on the applying of obtained knowledge for sensor and bio-sensors design.

DISTINGUISH RESULTS

62 papers published in international journals and recorded on Web of Science and **1 paper** is recorded on Scopus, **2 patent**, **>2700 citations** (2543 without auto-citations), **h-index: 22**, Over 50 posters were presented on the international conferences since 2005, 6 lectures were delivered on the international conferences and as invited scientist.