Carbon fiber microelectrodes as analytical tools

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Cylindrical microelectrodes fabricated from carbon fibers benefit from the properties of microelectrodes (i.e., significant contribution of radial diffusion mass-transfer to Faradayic current resulting in improved signal to noise ratio) and with respect to exceptional mechanical properties of carbon fiber material represent a powerful tool for electrochemical sensing. The carbon fiber microelectrodes' fabrication, pretreatment protocols and modification by diverse functional layers will be outlined in the talk. The performances of bare and modified carbon fiber microelectrodes in amperometric sensing, FIA, microdialysis, HPLC-ED and SERS will be discussed.