

## VIRTUAL ABSTRACT BOOK – INVITED PAPERS

### I.1. Porous semiconductor compounds: obtaining and functionalization with metallic nanostructures for multifunctional applications

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The report will focus on different aspects of pore growth during electrochemical etching in a controlled fashion [1], transition from the porous semiconductor structures to the formation of semiconductor nanowires [2,3], as well as technologies for controlled electrochemical deposition of metal nanostructures into porous semiconductor templates [4].

The obtained metal-semiconductor structures were exploited in a variable capacitance device elaboration with a record capacitance density variation of about  $6 \times 10^{-3}$  pF/V per  $1 \mu\text{m}^2$  of surface [5]. An IR photodetector based on a single GaAs nanowire with good sensitivity and dynamic characteristics was demonstrated [3]. The fabricated core-shell GaAs/Fe nanowire arrays, along with possibilities to tune the orientation to the substrate surface, showed magnetic anisotropy with respect to the coercivity and the remanence ratio [6,7].

#### References:

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