



## CuO-plate decorated ZnO nanostructures and their sensing performances

**Dinu Litra<sup>1</sup>, Cristian Lupan<sup>1</sup>, Tudor Zadorojneac<sup>1</sup>, Maxim Chiriac<sup>1</sup>, Nadine Depri<sup>2</sup>, Oleg Lupan<sup>1,2,3</sup>, Rainer Adelung<sup>2</sup>, Leonard Siebert<sup>2</sup>**

<sup>1</sup> Center for Nanotechnology and Nanosensors, Technical University of Moldova

<sup>2</sup> Chair for Advanced Materials, Department for Materials Science, Germany,

<sup>3</sup> Department of Physics, University of Central Florida, Orlando, United States

[lesi@tf.uni-kiel.de](mailto:lesi@tf.uni-kiel.de), [oleg.lupan@mib.utm.md](mailto:oleg.lupan@mib.utm.md), [ra@tf.uni-kiel.de](mailto:ra@tf.uni-kiel.de)

In this paper, we report on the gas sensing properties of mixed oxide Zn-Cu nanostructures obtained by self-organized chemical deposition are presented. The nanosensors are made from individual ZnO whiskers and are coated with CuO/Cu<sub>2</sub>O. They exhibit selectivity towards H<sub>2</sub> and NH<sub>3</sub> over other tested gases. Measurements were made in the temperature range between 20 - 175 oC. In order to determine the crystalline phases of the studied nanostructures, XRD diffractogram was measured, and SEM images were obtained for the morphological analysis.