



Contribution ID: 396

Type: Poster Presentation

## Microwave-assisted method derived ZnO nanostructures with various morphologies: Effect of pH on PL, magnetic and sensing properties.

Tuesday, 5 July 2016 16:10 (1h 50m)

**Abstract content** (Max 300 words) **Formatting & Special chars**

Zinc oxide (ZnO) nanostructures with different morphologies induced by variation of pH were successfully synthesized using the microwave-assisted hydrothermal method. Based on scanning electron microscopy (SEM), photoluminescence (PL) and electron paramagnetic resonance (EPR) studies, variation of pH have substantial effect on the morphology, surface defects, magnetic properties, and surface area of the ZnO nanostructures. The sensing performance of the ZnO nanostructures to different concentrations of methane ( $\text{CH}_4$ ), and ammonia ( $\text{NH}_3$ ) at 300deg:C was investigated.

**Apply to be considered for a student award (Yes / No)?**

yes

**Level for award (Hons, MSc, PhD, N/A)?**

MSc

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

**Please indicate whether this abstract may be published online (Yes / No)**

yes

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**Session Classification:** Poster Session (1)

**Track Classification:** Track A - Division for Physics of Condensed Matter and Materials