

## FKE - Guest Lecture

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## “Progresses in Focused Electron Beam Induced Processing: chemical and structural tunability and its application”

In this contribution we will first discuss recent progress in the field of Focused Electron Beam Induced Processing concerning chemical and structural tunability. In more detail latest purification approaches will be presented allowing entire carbon removal at rates of less than 60 sec.  $\mu\text{m}^{-2}$  footprint for initial deposits up to 150 nm thick. The result are pore-free, nanoflat structure with minimal lateral shrink ( $< 4\%$ ) while the (3D) surface morphology can entirely be maintained. A combined approach of experiments and simulations give furthermore insight in the purification process itself. In the second part of this contribution a concept will be presented which uses quasi-1D nanopillars as electro-dynamically driven resonators for final application as (gas) sensor. A defined combination of fabrication and post-growth treatment allow precise tuning of mechanical properties based on the complex structural peculiarities of Pt based FEBID structures. The study is complemented by simulations providing an insight in the structural changes during post-growth treatment.

Host: Dr. Heinz Wanzenboeck

Date: Wednesday April 23, 2014

Time: 11:45

Venue: E 362 Seminar room

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