



# SECOND INTERNATIONAL NANOTECHNOLOGY CONFERENCE ON COMMUNICATIONS AND COOPERATION

## Abstract

### **Nanoarchitectonics and non charge based devices**

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A wide variety of nano building blocks have been constructed. At MARCO Focus Center on Functional Engineered Nano Architectonics (FENA) and the Western Institute of Nanoelectronics (WIN), we explore different logic state variables, such as the use of particle spin, molecular conformation and others in addition to today's charge based electronics, for resolving the most critical bottleneck – power dissipation. We investigate many different functional nanomaterials as building blocks and self assembly techniques as alternate fabrication methods for nanostructures and their integration. Examples of fabricating molecular structures, for molecular conformation changes as well as the use of oxide spintronic wires and dilute magnetic nanostructures for potential device applications will be highlighted. The possibility of nanoarchitectonics enabling a variety of nano building blocks, which can be integrated on a common platform, suggests possible realization of future heterogeneous integrated nanosystems.