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### **Synthesis of InSb Nanowire Architectures – Building Blocks for Majorana Devices**

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Breakthroughs in material development are playing a major role in the emerging field of topological quantum computation with Majorana Zero Modes (MZMs). Due to the strong spin-orbit interaction and large Landé g-factor InSb nanowires are one of the most promising one dimensional material systems in which to detect MZMs. [1] The next generation of Majorana experiments should move beyond zero-mode detection and demonstrate the non-Abelian nature of MZMs by braiding. [2,3,4] To achieve this goal advanced material platforms are needed: low-disorder, single-crystalline, planar networks of nanowires with high spin-orbit energy. In this talk I will discuss the formation and electronic properties of InSb nanowire networks. [5,6] The bottom-up synthesis method we have developed is generic and can be employed to synthesize interconnected nanowire architectures of group III-V, II-VI and IV materials as long as they grow along a  $\langle 111 \rangle$  direction.

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