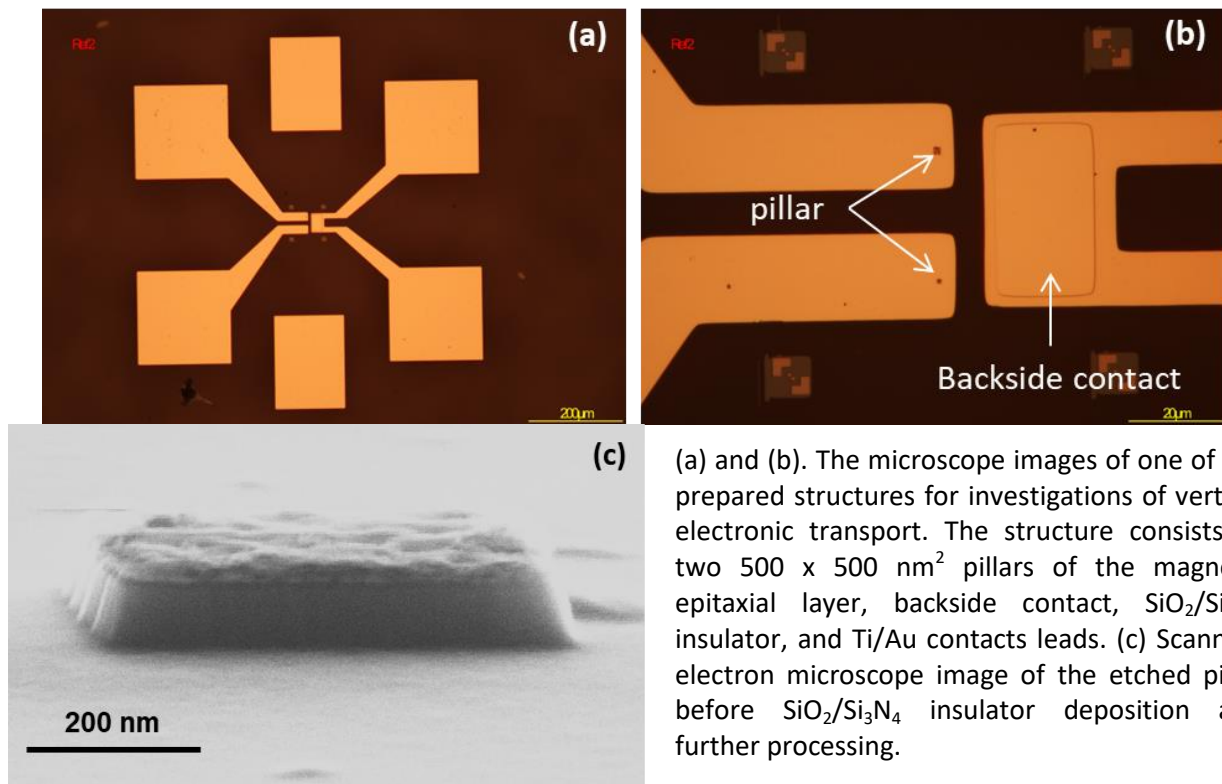


**Katarzyna Gas and Maciej Sawicki @ Physikalisches Institut, Experimentelle Physik III  
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From 23.08.2021 until 03.09.2021 we were visiting Prof. Dr. Laurens W. Molenkamp, head of the chair of “Experimental Physics 3” of the University of Wuerzburg, with whom we have a very active collaboration. The main theme of the existing collaboration are the magnetic properties of epitaxial layers of the antiferromagnetic half-Heusler CuMnSb. This project is led by Dr. Johannes Kleinlein whose group works on the means and methods of achieving current induced switching of the Neel order in thin layers of this material in micrometer-sized devices.

During our stay in Wuerzburg we became acquainted with the procedures and methods specific to cleanroom microfabrication techniques allowing patterning of thin epitaxial layers of magnetic materials into sub-micrometer spintronics vertical devices. We received hands on training from Dr. Tatiana Borzenko on various processing methods. These included pattern design using both, optical and electron beam lithography, electron beam evaporation – metallization, plasma enhanced chemical vapor deposition (PECVD) – insulating materials deposition, dry etching techniques (ion beam etching – IBE, reactive ion etching – RIE, inductively coupled plasma RIE etching – ICP), lift-off techniques and electrical contacting. The whole fabrication process was validated by extended electrical testing.



We particularly enjoyed scientific discussions and brainstorming with all the members of the group led by Dr. Johannes Kleinlein. The layouts for forthcoming two papers have been laid down. Other directions of our joint collaboration have been identified.