**Title:** Visualization and 3D modeling of intercellular bridges between germ cells in seminiferous tubules of mice during different stages of spermatogenesis  
**Author:** Y. Romin & M. Turkekul & N. Fan & G. Huang & K. Xu & A. Barlas & K. Manova-Todorova  
**Affiliation:** Memorial Sloan-Kettering Cancer Center, New York, NY

TEX14 has been implicated as a key player in the formation and maintenance of stable intercellular bridges between differentiating germ cells during spermatogenesis. These bridges are involved in communication and intercellular trafficking of materials between the cytoplasms of germ cells and are believed to participate in the regulation of their synchronous development. We study seminiferous cycle stage-specific expression of TEX14, both in the intercellular bridges as well as the cytoplasm of the developing germ cells. To our knowledge, stage-specific Tex14 expression in the cytoplasm of germ cells has not been reported up to date. We are interested in comparing TEX14 expression in potential spermatogonial stem cells versus their differentiating counterparts, as well as in better understanding of the traveling of the developing germ cells through the blood-testis barrier, formed by the intercellular junctions connecting the Sertoli cells. Previous studies of TEX14 expression have been done using cultures of germ cells or thin tissue sections. We performed double and triple IF detection in thick testis sections (up to 100 microns), using TEX14, PLZF and Sertoli cell-specific molecular markers. By confocal microscopy and 3d rendering software we built a 3d model in order to facilitate our understanding of cellular relationships in testis under normal and abnormal conditions.