

## Special Issue

# Centrosomes and Microtubule-Organizing Centers

### Message from the Guest Editors

Microtubules in cells usually emerge from special seeds. The centrosome consists of centrioles surrounded by fibro-granular pericentriolar material to which the  $\gamma$ TuRCs are attached. In addition to organizing the pericentriolar material, centrioles are required for the formation of cilia and flagella. It is not uncommon for cells to form additional MTOCs when  $\gamma$ TuRCs accumulate on the Golgi apparatus, the nuclear envelope, or near the plasmalemma. Despite intensive research, details about the formation of MTOC remain unclear. Thus, our understanding of  $\gamma$ TuRC attachment to the pericentriolar material and other cell contents,  $\gamma$ TuRC activation, and the mechanisms of the accumulation of pericentriolar material around the centrioles are unclear. The assembly process of centrioles at the molecular level remains largely enigmatic. Disturbances in MTOC formation can lead to spindle dysfunction and chromosomal abnormalities in mitosis. This Special Issue of *IJMS* aims to provide our current understanding of MTOC and centrosome formation and functioning at the molecular level. Prof. Dr. Elena S. Nadezhdina

### Guest Editors

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