Circulating Tumor Cell Clustering as a Driving Force of Metastasis

Research emphasis:
Tyler’s research involves understanding how circulating tumor cells exit blood vessels and form secondary tumors. He is focused on using zebrafish and mouse models to elucidate why circulating tumor cells have increased metastatic potential when aggregated. Tyler’s research builds upon the discovery of a novel method adult patient-derived stem cells use to exit the circulation when injected intravenously, termed angiopellosis. It has been observed that circulating tumor cells can utilize angiopellosis to exit blood vessels as clusters, enhancing their ability to form secondary tumors.

Applications:
▪ Cancer metastasis
▪ Cell extravasation
▪ Regenerative Medicine

Research Strengths:
▪ Mouse metastasis models
▪ Zebrafish metastasis models
▪ Lightsheet microscopy
▪ Stable cell transduction
▪ Cell culture

Selected Publications:

1. (2017) Dr. Junnan Tang, Mr. Adam Vandergriff, Dr. Zegen Wang, Mr. Michael Hensley, Mr. Jhon Cores, Mr. Tyler Allen, Miss Phuong-Uyen Dinh, Dr. Jinying Zhang, Dr. Thomas Caranasos, and Dr. Ke Cheng. A regenerative cardiac patch formed by spray painting of biomaterials onto the heart. Tissue Engineering Part C: Methods. doi:10.1089/ten.TEC.2016.0492.

