



Department of Biomedical Engineering  
Graduate Seminar



**Dr. Robert Schwartz, M.D., Ph.D.**

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Cornell University, New York

**Subject: Modelling Human Liver Disease Using Engineered Liver Tissue**

**Abstract:**

Human liver disease impacts 5 million Americans and is the tenth leading cause of death in the United States and eleventh globally. Current clinical therapies are targeted to symptom management but do not address the direct issue of liver decompensation and failure. In my laboratory we have leveraged tools and techniques from the materials science, tissue engineering, stem cell biology and developmental biology communities to generate human hepatocytes and human mini-liver constructs. These constructs are being tested for their use to augment liver function and impact human liver disease. Moreover these constructs as mini-liver avatars can be used to model human drug toxicity, human hepatotropic infections, and hepatocarcinogenesis.

**Bio:**

Dr. Schwartz completed his Ph.D. in Biomedical Engineering at the University of Minnesota. His thesis work was on the derivation of stem cell derived hepatocytes and in vitro liver model systems. He completed his residency in Internal Medicine at Washington University in St. Louis/Barnes Jewish Hospital. His fellowship in Gastroenterology and Hepatology with a focus on hepatology was completed at the Brigham and Women's Hospital. He did a postdoc at MIT in the laboratory of Dr. Sangeeta Bhatia. His research continued to focus on the development of stem cell derived hepatocytes as a model system to study human liver disease and for clinical therapy. In his own lab at Weill Cornell Medical College he has continued to focus his work on the clinical translation and research applications of stem cell derived hepatocytes and primary human hepatocytes. Most recently he has leveraged these platforms to generate novel insights into SARS-CoV-2 biology. His work has been highlighted in journals such as Nature, Cell, Cell Stem Cell, and Gastroenterology.

**Date and time: Friday March 12<sup>th</sup>, 2021**

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