

## Propositions:

1. Reliable establishment of tumor organoids from patients is pertinent to advance applications of organoid technology for potential personalized medicine. - *This thesis*
2. Induction of branching morphogenesis in cholangiocarcinoma organoids results in a cancer cell phenotype that/which better recapitulates the original tumor. - *This thesis*
3. Optimized agitation-based decellularization results in effective isolation of extracellular matrix from liver tumor, tumor-free liver, lung, and lymph node tissue. - *This thesis*
4. Decellularization of liver cancer tissue offers new opportunities for research to expand our knowledge on malignancy-related extracellular matrix. - *This thesis*
5. Epithelial cholangiocarcinoma cells contribute to extracellular matrix deposition depending on the extracellular microenvironment itself. - *This thesis*
6. In a metastatic setting, outgrowth of tumor cells is both dependent on characteristics of the primary tumor and the extracellular matrix of the target organ. - *This thesis*
7. Our collective success in engineering robust cancer models will reshape the way we approach personalized care and accelerate the translation of clinically effective treatments that improve patient outcomes. - *LeSavage, Nature materials, 2021*
8. The ability to stratify patients on the basis of the nature of their tumor extracellular matrix could offer a powerful approach for personalized, patient-centric medicine. - *Adapted from Cox, Nature reviews cancer, 2021*
9. Variation itself is nature's only irreducible essence. Variation is the hard reality, not a set of imperfect measures for a central tendency. - *Stephen Jay Gould*
10. All models are wrong, but some organoid models may be useful. - *Adapted from George E.P. Box*
11. I wish there was a way to know you were in the good old days before you actually left them. – *Andy Bernard, The Office*