Thomas Graeber, PhD, is the Director, UCLA Metabolomics Center, and Professor, Molecular & Medical Pharmacology. Dr. Graeber takes an interdisciplinary ‘systems biology’ approach that merges biology, chemistry, mathematics and computation/bioinformatics to understand how cancer cells communicate with their environments, process nutrients, and evade therapies. The ultimate goal of this work is to identify new ways to diagnose and treat cancer on a cellular, patient-specific level.

Areas of focus: Dr. Graeber aims to make advances in understudied cancers with few or no available targeted therapies; determining how cancer cells de-differentiate, or revert back to an earlier stage of development. De-differentiation can also be linked to cancer stem cells, which are able to self-renew and give rise to all cell types found in a tumor. De-differentiated cells can evade common treatments such as chemotherapy and radiation and cause recurrence of the disease. An additional therapeutic avenue Graeber investigates is how to turn genetic and chromosomal flaws found across aggressive cancer types into a vulnerability rather than a strength.