

Thales Papagiannakopoulos, Ph.D.

Current Appointments and Leadership Positions

06/2024-Current	Tenured Associate Professor , Department of Pathology, Perlmutter Cancer Center, NYU Grossman School of Medicine, New York, NY
07/2021-Current	Director , Molecular Oncology and Tumor Immunology Program, NYU Grossman School of Medicine, New York, NY
07/2020-05/2024	Associate Professor , Department of Pathology, Perlmutter Cancer Center, NYU Grossman School of Medicine, New York, NY
10/2015-06/2020	Assistant Professor , Department of Pathology, Perlmutter Cancer Center, NYU Grossman School of Medicine, New York, NY

Education and Training

2010-2015	Postdoctoral Associate , Massachusetts Institute of Technology, Koch Institute for Integrative Cancer Research, Cambridge, MA. Advisor: Tyler E. Jacks
2005-2010	Doctor of Philosophy (Ph.D.), Molecular, Cellular and Dev. Biology (MCDB) University of California, Santa Barbara. Advisor: Kenneth Kosik
2001-2004	Bachelors in Science (BSc) with Honors, Molecular Genetics University of Sussex, Falmer/Brighton, UK

Thales Papagiannakopoulos obtained his Ph.D. in Molecular, Cellular, and Developmental Biology in Dr. Ken Kosik's laboratory at the University of California, Santa Barbara (2005–2010), where he studied the role of microRNAs in regulating embryonic stem cell pluripotency and cancer. In 2010, he joined Dr. Tyler Jacks' laboratory at the Massachusetts Institute of Technology as a postdoctoral fellow. During this time, he pioneered the use of CRISPR/Cas9-based somatic genome engineering in lung cancer genetically engineered mouse models and demonstrated that disruption of circadian homeostasis rewires tumor metabolism and promotes lung cancer progression—a finding that supports epidemiological evidence linking shift-work to cancer risk.

In 2015, Dr. Papagiannakopoulos joined the NYU Grossman School of Medicine as an Assistant Professor in the Department of Pathology, where he was later promoted to Associate Professor with tenure. In 2021, he became Director of the Molecular Oncology and Tumor Immunology Training Program, which provides interdisciplinary training in cancer biology and tumor immunology for pre- and postdoctoral fellows.

His research integrates molecular genetics, metabolism, and systemic physiology to uncover how tumors communicate with and remodel their host environment—locally through immune and stromal interactions, and systemically. Over the last decade, his laboratory has defined how *KEAP1/NRF2* and *LKB1* mutations drive metabolic rewiring and immune evasion and has made significant progress in developing therapies for these aggressive lung cancer subtypes, which are resistant to standard chemotherapy and immunotherapy. Recently, his team identified FSP1 as a key suppressor of ferroptosis and demonstrated that its inhibition triggers ferroptotic cell death *in vivo*, revealing fundamental vulnerabilities in cancer metabolism and redox control with translational potential.

More recently, Dr. Papagiannakopoulos's group has uncovered a neurophysiological axis of cancer, showing that tumors engage peripheral sensory neurons and central brain circuits to drive anorexia, sickness behavior, and cachexia. This work reframes cancer as a systemic disease that exploits brain–body communication to influence host metabolism and behavior, offering new insights into how neural and physiological networks shape disease progression.