



## Postdoctoral Researcher Positions

Two postdoctoral researcher positions are available in the laboratory of **Dr. Xiaolu Yang** at the Perelman School of Medicine at the University of Pennsylvania. Our lab is interested in cancer, stem cells, and neurodegeneration. The current projects focus on two areas:

**(1) The tumor suppressor p53, metabolism, and autophagy.** We are interested in the regulation and functions of the preeminent tumor suppressor p53. Our results have revealed an important role for p53 in modulating metabolic pathways critical for biosynthesis and redox balance. We are investigating the function of p53 as both a sentinel and a regulator for metabolic activities. Furthermore, we are identifying and characterizing metabolic alterations that drive tumor initiation and progression. A recent extension of this research area is to define the role of metabolism and autophagy in stem cells, including embryonic stem cells and cancer stem cells.

**(2) Protein quality control, aging, and neurodegeneration.** Our lab recently identified two protein quality control (PQC) systems, which consist of tripartite motif (TRIM) proteins and poly-Asp/Glu proteins, respectively. These PQC systems are independent of ATP and highly effective in suppressing protein misfolding and aggregation. We are investigating their mechanisms of action and their roles in aging and neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, and polyglutamine diseases. We also seek to develop novel therapies based on these systems to treat neurodegenerative diseases.

For more information on the laboratory and its research, please see the following publications and website:

*Nature* **597**: 132-137 (2021)  
*Nature Cell Biology* **23**: 978–991 (2021)  
*Cell Metabolism* **33**: 94-109 (2021)  
*Science* **369**: 397-403 (2020)  
*Cell Reports* **33**: 108418 (2020)  
*Nature Communications* **11**: 348 (2020)  
*Nature Communications* **10**: 1495 (2019)  
*Cancer Research* **79**: 2220-2231 (2019)  
*Nature Communications* **9**: 4683 (2018)  
*Nature Communications* **9**: 1223 (2018)  
*Cell Reports* **18**: 3143-3154 (2017)  
*Molecular Cell* **55**: 15-30 (2014) (Cover Article)  
*Nature* **493**: 689-93 (2013)  
*Nature Cell Biology* **15**: 991-1000 (2013) (Cover Article)  
*Nature Cell Biology* **13**: 310-316 (2011) (Cover Article)  
*Molecular Cell* **37**: 668-678 (2010) (Cover Article)  
*Cell* **133**: 415–426 (2008)  
*Molecular Cell* **31**: 415-421 (2008)

<https://www.med.upenn.edu/apps/faculty/index.php/g275/p20138>

Successful candidates should have a strong record of scientific productivity and extensive experience in a related field, including but not limited to molecular biology, biochemistry, cell biology, metabolism, stem cells, cancer, neuroscience, and neurodegeneration. To apply, please send a cover letter, curriculum vitae, and contact information of three references to:

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