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Alexandros Pertsinidis, PhD
Professor, Biochemistry and Structural Biology Program

Our mission is the development of a “new” generation of optical imaging technologies to enable advances in two hitherto difficult-to-investigate areas: the real-time analysis of macromolecular interactions and motions at the nanometer scale in vivo and the three-dimensional architecture of complex molecular machines and of subcellular ultrastructure, in situ. We are also refining and applying ultrahigh-resolution spectroscopy techniques to dissect multistep complex biochemical processes using in vitro reconstituted single-molecule assays.

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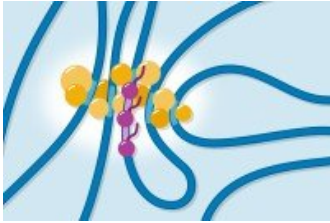
Research Projects

[Transcription Initiation of Eukaryotic mRNA Coding Genes](#)

[Mechanisms of Repair and Lesion By-pass DNA Polymerases](#)

[Molecular Architecture of Chemical Synapses in the Mammalian Brain](#)

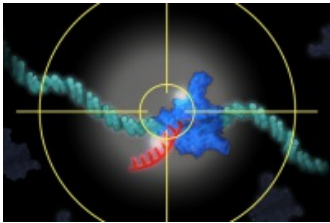
Featured News



[Going the Distance: How DNA Enhancers Communicate with Their Target Genes](#)

Scientists at the Sloan Kettering Institute are learning how far-flung regions of genes connect to start the process of making proteins.

IN THE LAB



[Scientists Develop a Tool to Watch a Single Gene Being Transcribed in a Living Cell](#)

A new imaging technology developed at MSK allows researchers to focus on genes as they are copied into messenger RNA.

Publications Highlights

[Jieru Li, Ankun Dong, Kamola Saydaminova, Hill Chang, Guanshi Wang, Hiroshi Ochiai, Takashi Yamamoto and Alexandros Pertsinidis. Single-Molecule Nanoscopy Elucidates RNA Polymerase II Transcription at Single Genes in Live Cells, *Cell* \(2019\).](#)

[Guanshi Wang, Jesse Hauver, Zachary Thomas, Seth A. Darst, Alexandros Pertsinidis. Single-Molecule Real-Time 3D Imaging of the Transcription Cycle by Modulation Interferometry. *Cell*. Volume 167, Issue 7, p1839–1852.e21, 15 December 2016](#)

People



Alexandros Pertsinidis, PhD


Professor, Biochemistry and Structural Biology Program

The Pertsinidis laboratory uses single-molecule approaches to understand gene transcription and the function of complex macromolecular machines inside live cells.

PhD, Brown University

 PertsinA@mskcc.org

Email Address

 [212-639-5258](tel:212-639-5258)

Office Phone

Members

Program

Research Fellow

Zhangli Ni

Research Scholar

Shilin Yuan

Research Associate

Lab Alumni
+

Lab Affiliations
+

Achievements

Director's New Innovator Award, National Institutes of Health (2012)

Open Positions

To learn more about available postdoctoral opportunities, please visit our [Career Center](#)

To learn more about compensation and benefits for postdoctoral researchers at MSK, please visit [Resources for Postdocs](#)

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Get in Touch

✉ PertsinA@mskcc.org

Lab Head Email

☎ [212-639-5258](tel:212-639-5258)

Office Phone

☎ [212-717-3541](tel:212-717-3541)

Office Fax

☎ [212-639-5259](tel:212-639-5259)

Lab Phone

Disclosures

Doctors and faculty members often work with pharmaceutical, device, biotechnology, and life sciences companies, and other organizations outside of MSK, to find safe and effective cancer treatments, to improve patient care, and to educate the health care community.

MSK requires doctors and faculty members to report (“disclose”) the relationships and financial interests they have with external entities. As a commitment to transparency with our community, we make that information available to the public.

Alexandros Pertsinidis discloses the following relationships and financial interests:

No disclosures meeting criteria for time period

The information published here is for a specific annual disclosure period. There may be differences between information on this and other public sites as a result of different reporting periods and/or the various ways relationships and financial interests are categorized by organizations that publish such data.

This page and data include information for a specific MSK annual disclosure period (January 1, 2022 through disclosure submission in spring 2023). This data reflects interests that may or may not still exist. This data is updated annually.

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