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CHEMICAL BIOLOGY PROGRAM

The Minkui Luo Lab

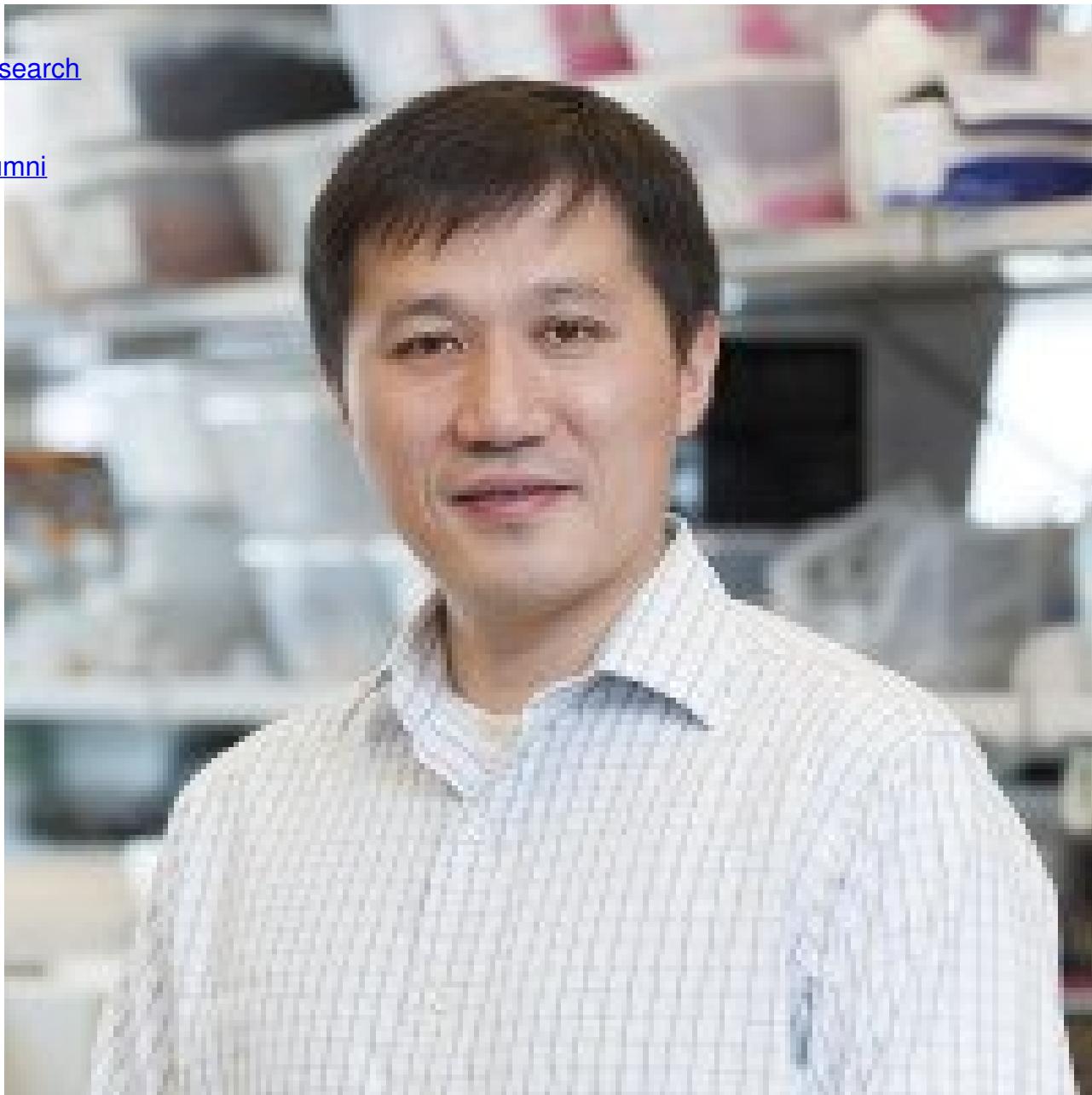
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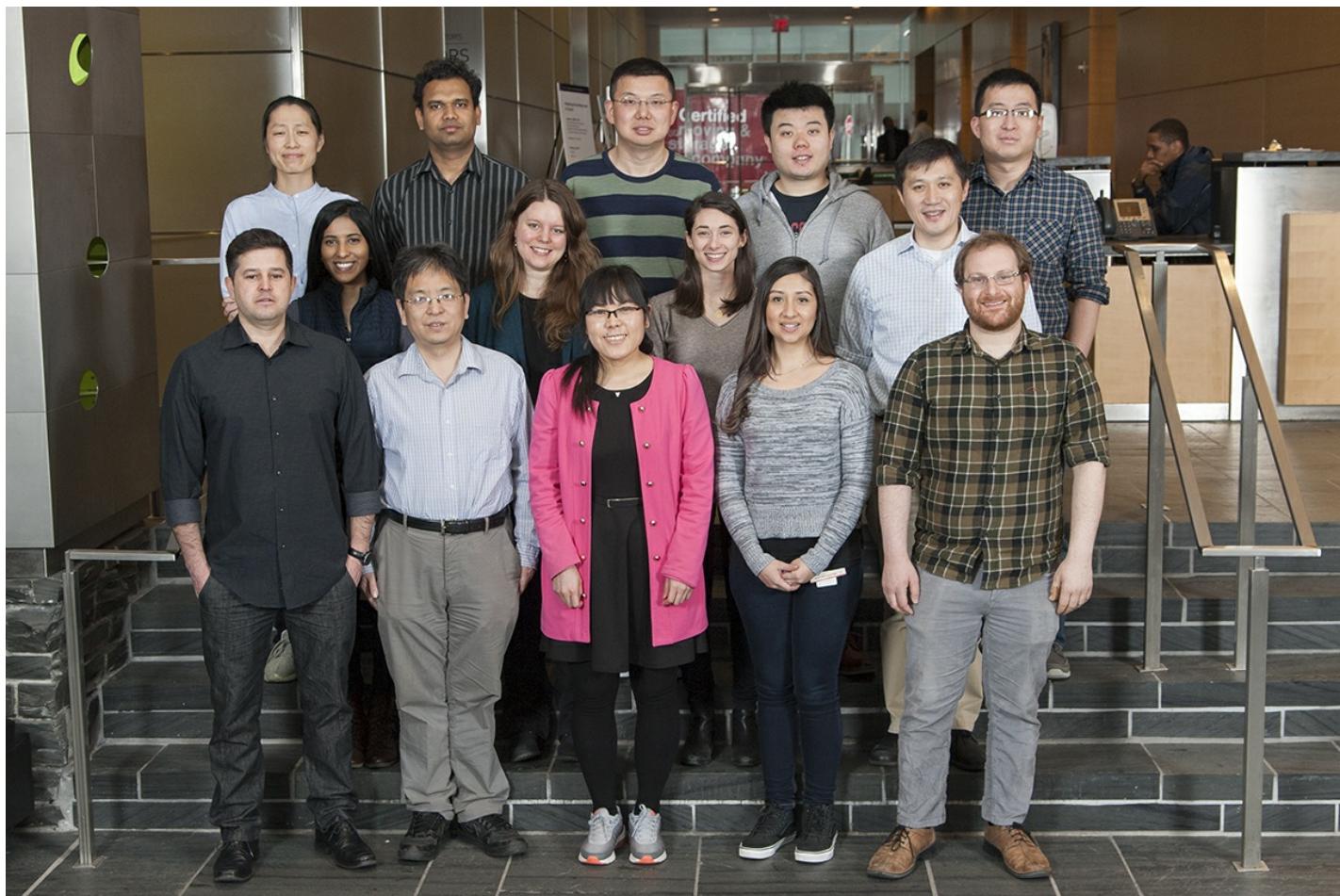


Minkui Luo, PhD

Professor

The Luo Lab is interested in developing and leveraging novel approaches at the interface of chemistry and biology to annotate functional roles of epigenetic modulators. Epigenetic regulation is essential for maintaining cellular fates and its dysregulation has been associated with various diseases including cancer. Among key epigenetic modulators are diverse protein methyltransferases/demethylases and methyl-arginine/lysine (Rme/Kme) effector proteins. With novel chemical tools developed in-house, we aim to systematically interrogate Rme/Kme-involved epigenetics with emphasis on novel molecular mechanisms and biological outcomes. The Luo laboratory is also interested in designing and synthesizing epigenetic inhibitors with the emphasis of the distinct modes of action in disease-relevant contexts. Researchers in the Luo Lab with expertise in chemistry, biochemistry and biology work in a highly collaborative manner to develop unprecedent chemical reagents for biological discovery, elucidate disease-causing mechanisms with molecular details, and explore novel treatments against cancer.

[View Lab Overview](https://www.sloankettering.edu/research-areas/labs/minkui-luo/overview) (<https://www.sloankettering.edu/research-areas/labs/minkui-luo/overview>)



Featured News

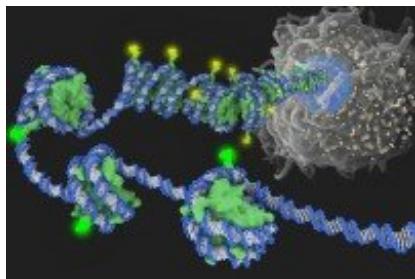
IN THE LAB



[Computational “Hive Mind” Helps Scientists Solve an Enzyme’s Cryptic Movements](#)

The breakthrough gives an unprecedented look at the varied and shifting poses of a protein in action.

Q&A



[Setting Cancer Cells on the Right Path: A New Leukemia Drug Shows Growing Promise](#)

An experimental drug for acute myelogenous leukemia might potentially help many more patients than previously thought by controlling epigenetic processes, according to a recent MSK study.

Publications Highlights

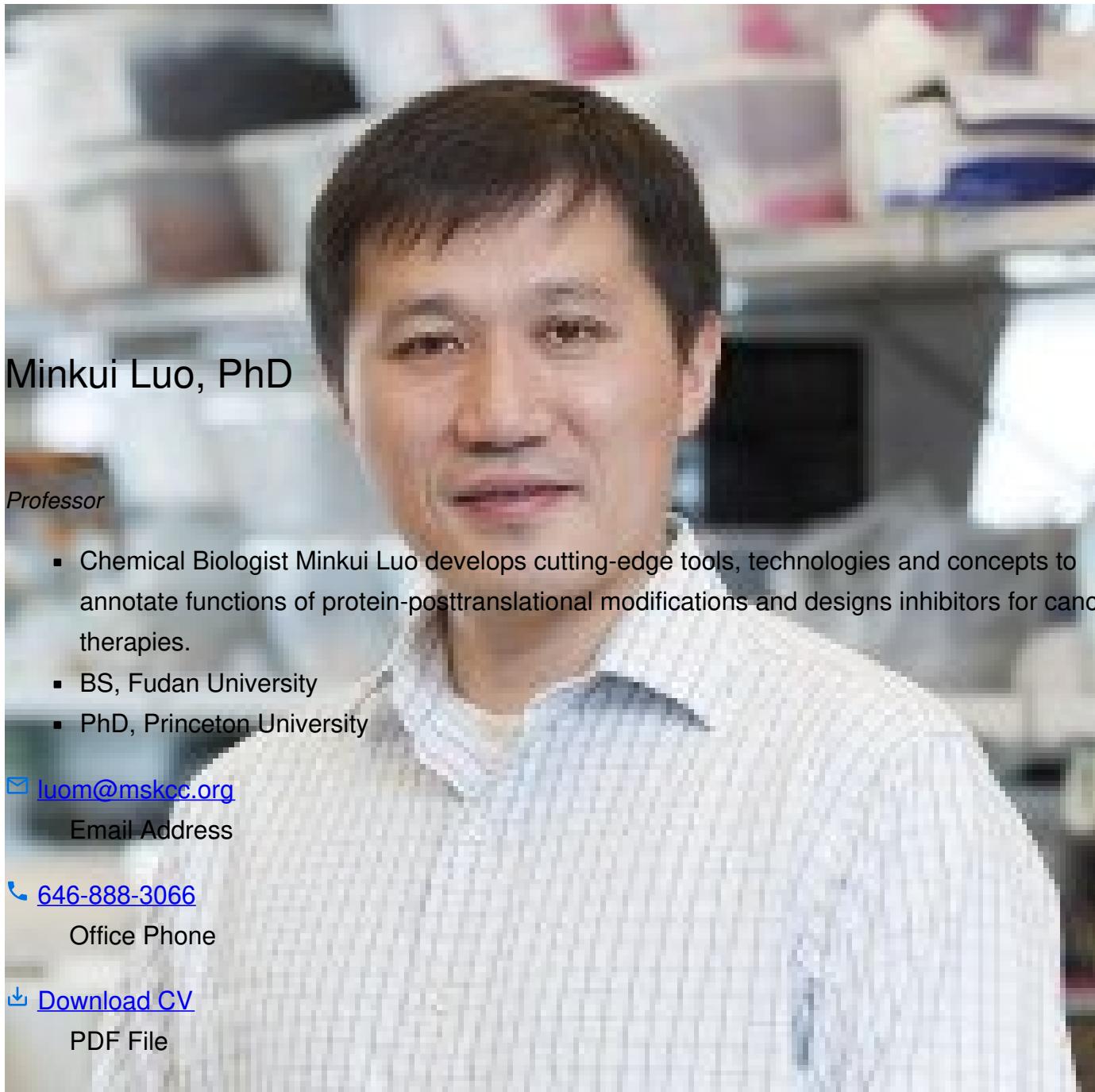
Cai XC, Zhang T, Kim EJ, Jiang M, Wang K, Wang J, Chen S, Zhang N, Wu H, Li F, Dela Seña CC, Zeng H, Vivcharuk V, Niu X, Zheng W, Lee JP, Chen Y, Barsyte D, Szewczyk M, Hajian T, Ibáñez G, Dong A, Dombrovski L, Zhang Z, Deng H, Min J, Arrowsmith CH, Mazutis L, Shi L, Vedadi M, Brown PJ, Xiang J, Qin LX, Xu W, Luo M. A chemical probe of CARM1 alters epigenetic plasticity against breast cancer cell invasion. *Elife*. 2019 Oct 28;8:e47110. This work was highlighted by *Elife Digest*.

Chen S, Kapilashrami K, Senevirathne C, Wang Z, Wang J, Linscott JA, Luo M. Substrate-Differentiated Transition States of SET7/9-Catalyzed Lysine Methylation. *J Am Chem Soc*. 2019 May 22;141(20):8064-8067.

Chen S, Wiewiora RP, Meng F, Babault N, Ma A, Yu W, Qian K, Hu H, Zou H, Wang J, Fan S, Blum G, Pittella-Silva F, Beauchamp KA, Tempel W, Jiang H, Chen K, Skene RJ, Zheng YG, Brown PJ, Jin J, Luo C, Chodera JD, Luo M. The dynamic conformational landscape of the protein methyltransferase SETD8. *Elife*. 2019 May 13;8:e45403. This work was highlighted by *Elife Digest*, *News of Shanghai Institute of Materia Medica*, *MSKCC Blog*, and *TPCB Webpage*.

[View All Publications](#)

People

A portrait photograph of Minkui Luo, PhD, a middle-aged man with dark hair and a slight smile. He is wearing a light-colored, button-down shirt. The background is a blurred laboratory setting with shelves and equipment.

Minkui Luo, PhD

Professor

- Chemical Biologist Minkui Luo develops cutting-edge tools, technologies and concepts to annotate functions of protein-posttranslational modifications and designs inhibitors for cancer therapies.
- BS, Fudan University
- PhD, Princeton University

[!\[\]\(7e0d6a31a51eb3952a6a6daebf7e401c_img.jpg\) luom@mskcc.org](mailto:luom@mskcc.org)

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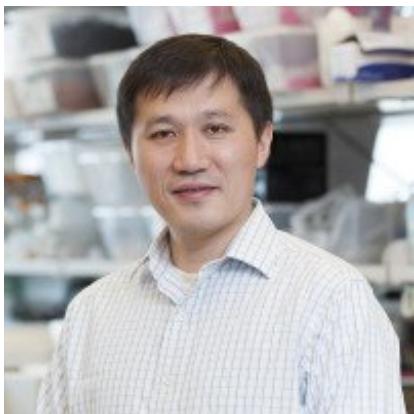
[!\[\]\(67f2870f14660d0c1a2612f703dff40d_img.jpg\) 646-888-3066](tel:646-888-3066)

Office Phone

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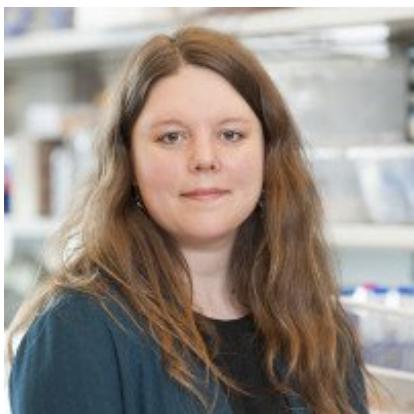
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Members



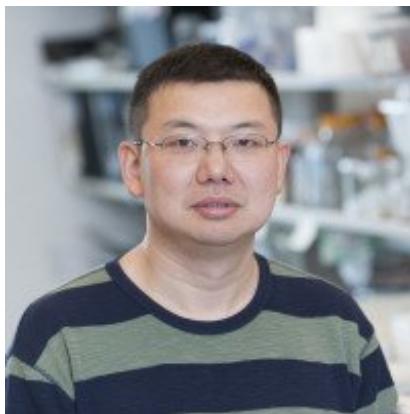
Minkui Luo

Lab Head



Ryan Blawski

Former Research Fellow



Junyi Wang

Research Technician

Jessica Arlequin

Senior Administrative Assistant

Deyao Li

Research Fellow

Zhizhong Li

Senior Research Assistant

• Maximizing Investigators' Research Award (R35), NIGMS/NIH (2019)

Rohit Chaudhuri: Eli Lilly Award in Research Fellow Biological

Chemistry, American

Chemical Society (2015)

• Clinical & Translational Science

Center Novel Award, Weill Cornell

Medical College (2014)

• Basil O'Connor Starter Scholar,

March of Dimes Birth Defects

Foundation (2011)

• Director's New Innovator Award,

National Institutes of Health (2010)

Ke Wang

Senior Research Scientist

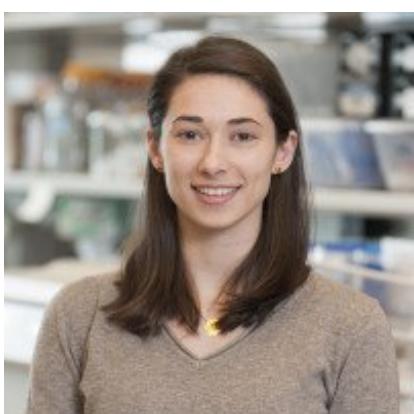
Yu Zong

Research Fellow

Open Positions

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Nicole Weiss

Research Fellow

Career Opportunities

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Disclosures

Members of the MSK Community 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. These activities outside of MSK further our mission, provide productive collaborations, and promote the practical application of scientific discoveries.

MSK requires doctors, faculty members, and leaders 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. Not all disclosed interests and relationships present conflicts of interest. MSK reviews all disclosed interests and relationships to assess whether a conflict of interest exists and whether formal COI management is needed.

Minkui Luo discloses the following relationships and financial interests:

- American Society for Biochemistry and Molecular Biology
 - Professional Services and Activities (Uncompensated)
- Central China Normal University
 - Professional Services and Activities
- Chinese-American Chemistry & Chemical Biology Professors Association (CAPA)
 - Professional Services and Activities (Uncompensated)
- Elsevier
 - Professional Services and Activities
- Federation of American Societies for Experimental Biology (FASEB)
 - Professional Services and Activities (Uncompensated)
- Gordon Research Conferences
 - Professional Services and Activities (Uncompensated)
- International Chemical Biology Society

- Professional Services and Activities (Uncompensated)
- King Abdullah University of Science and Technology
 - Professional Services and Activities (Uncompensated)
- Pacifichem, Inc.
 - Professional Services and Activities (Uncompensated)
- Peking University
 - Professional Services and Activities (Uncompensated)
- Research Grants Council (RGC), Hong Kong
 - Professional Services and Activities
- Shanghai Institute of Materia Medica, Chinese Academy of Sciences
 - Professional Services and Activities (Uncompensated)
- Shenzhen Bay Laboratory
 - Professional Services and Activities
- The Mark Foundation for Cancer Research
 - Professional Services and Activities
- The University of Hong Kong
 - Professional Services and Activities
- Westlake University
 - Professional Services and Activities

The information published here is a complement to other publicly reported data and 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, 2024 through disclosure submission in spring 2025). This data reflects interests that may or may not still exist. This data is updated annually.

Learn more about MSK's COI policies [here](#) . For questions regarding MSK's COI-related policies and procedures, email MSK's Compliance Office at ecoi@mskcc.org .

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