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# The Meng-Fu Bryan Tsou Lab

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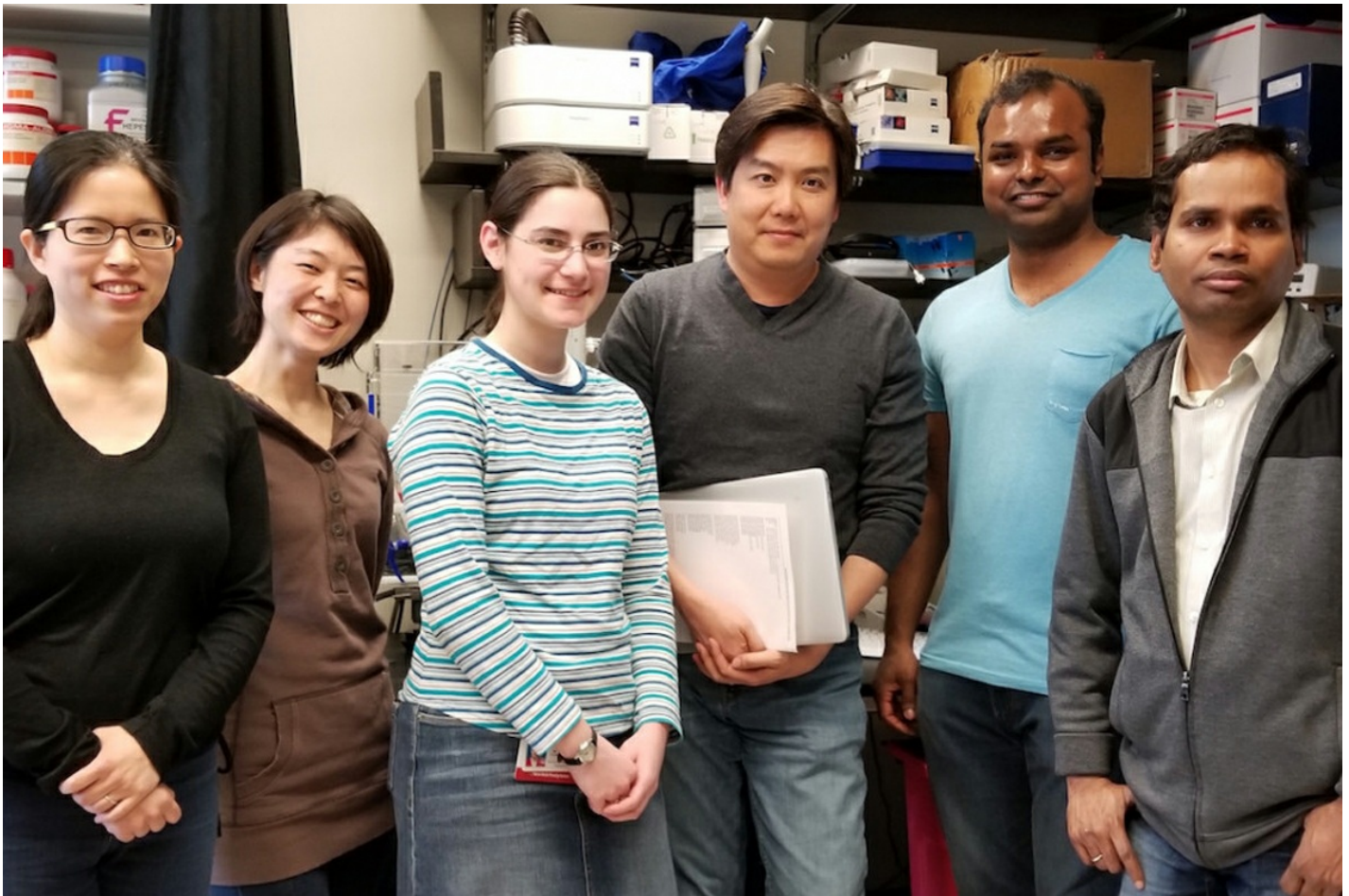
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Meng-Fu Bryan Tsou, PhD

The goal of my research is to understand the biogenesis of centrioles/centrosomes and primary cilia, and how defects in these processes affect mammalian cell physiology and evoke stress responses. Using quantitative proteomics, super-resolution microscopy, comparative genomics, proximity labeling, and whole genome CRISPR screen, we have identified lists of new components associated with vertebrate centrosomes and ciliogenesis. Functions of these molecules are being examined in the most appropriate experimental system, including human culture cells for cell-based assays, and most recently, mice, as the genetic system to explore the regulation specific to vertebrate ciliogenesis. This multi-system approach has revealed complex regulatory networks underlying centriole homeostasis and ciliogenesis that have been either preserved throughout the evolution or modified specifically for vertebrates and mammals.

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## Publications Highlights

[Centrosome anchoring regulates progenitor properties and cortical formation.](#)

Shao W, Yang J, He M, Yu XY, Lee CH, Yang Z, Joyner AL, Anderson KV, Zhang J, Tsou MB, Shi SH. *Nature*. 2020 Apr;580(7801):106-112. doi: 10.1038/s41586-020-2139-6. Epub 2020 Mar 25. PMID: 32238932; PMCID: PMC7138347.

[Super-resolution microscopy reveals coupling between mammalian centriole subdistal appendages and distal appendages.](#)

Chong WM, Wang WJ, Lo CH, Chiu TY, Chang TJ, Liu YP, Tanos B, Mazo G, Tsou MB, Jane WN, Yang TT, Liao JC. *Elife*. 2020 Apr 3;9:e53580. doi: 10.7554/eLife.53580. PMID: 32242819; PMCID: PMC7173962.

[PPP1R35 ensures centriole homeostasis by promoting centriole-to-centrosome conversion.](#)

Fong CS, Ozaki K, Tsou MB. *Mol Biol Cell*. 2018 Nov 15;29(23):2801-2808. doi: 10.1091/mbc.E18-08-0525. Epub 2018 Sep 19. PMID: 30230954; PMCID: PMC6249868.

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[Super-resolution architecture of mammalian centriole distal appendages reveals distinct blade and matrix functional components.](#)

Yang TT, Chong WM, Wang WJ, Mazo G, Tanos B, Chen Z, Tran TMN, Chen YD, Weng RR, Huang CE, Jane WN, Tsou MB, Liao JC. Nat Commun. 2018 May 22;9(1):2023. doi: 10.1038/s41467-018-04469-1. PMID: 29789620; PMCID: PMC5964178. (\*Co-corresponding authors).

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[Probing Cilia-Associated Signaling Proteomes in Animal Evolution.](#)

Shulman AS, Tsou MF. Dev Cell. 2017 Dec 18;43(6):653-655. doi: 10.1016/j.devcel.2017.12.009. PMID: 29257946.

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## People



## Meng-Fu Bryan Tsou, PhD

*Professor*

- Cell biologist Meng-Fu Bryan Tsou studies cell cycle control of centrosome duplication and degeneration, as well as cilia assembly and disassembly.
- PhD, University of California, Davis

✉ [tsoum@mskcc.org](mailto:tsoum@mskcc.org)

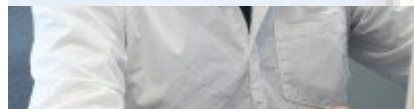
Email Address

### Members

Lab

Alumni

Lab Affiliations



Bryan Tsou

Lab Head



Kanako Ozaki

Senior Research Scientist

### Open Positions

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Sonia Das

Sr. Administrative Assistant

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## Get in Touch

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Lab Head Email

## 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.

Meng-Fu Bryan Tsou discloses the following relationships and financial interests:

*No disclosures meeting criteria for time period*

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.

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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.

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and procedures, email MSK's Compliance Office at [ecoi@mskcc.org](mailto:ecoi@mskcc.org) .

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