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Memorial Sloan Kettering
Cancer Center

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CHEMICAL BIOLOGY PROGRAM

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[Chemical Biology Program](#)

Research



Derek Tan, PhD

Chair, Chemical Biology Program, SKI; Tri-Institutional Professor; Eugene W. Kettering Chair

The identification of small-molecule probes and therapeutic lead compounds to address novel biological targets is a significant current challenge in chemical biology and drug discovery. We are engaged in a two-pronged approach to this problem involving diversity-oriented synthesis and rational design as complementary approaches to ligand discovery. Our work in both of these areas is influenced at multiple levels by insights from natural products. At the core of these efforts is the development of new chemical methodologies to provide flexible, efficient, systematic access to these structures. We leverage multidisciplinary collaborations with biologists to evaluate these molecules to probe key biological processes and to explore new therapeutic opportunities in cancer and infectious diseases. Our group is strongly committed to promoting diversity and inclusion at all levels and welcomes scientists from all backgrounds!

[View Lab Overview](#) →

Research Projects

[Research Projects](#)

VIDEO | 02:08

Go inside the lab of Derek Tan from SKI's Chemical Biology Program.

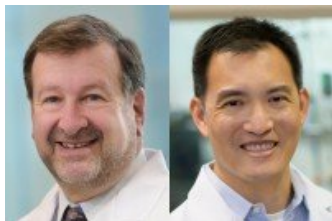
[Video Details](#) →



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Featured News



[Sloan Kettering Institute Scientists Retool CAR T Cells to Serve as 'Micropharmacies' for Cancer Drugs](#)

These souped-up versions may help overcome some limitations of existing CAR T cells.



[Science Spotlight: Experience the Drug Discovery Journey with Derek Tan, PhD](#)

The June 15 edition of “MSK Science Spotlight,” features Derek Tan, PhD discussing “A Drug Discovery Journey from Tuberculosis to Cancer.”

IN THE LAB



[New Chemical Biology Program Brings Power of Chemistry to Biomedical Research](#)

A new Sloan Kettering Institute program will enhance the use of chemical principles to investigate biological processes.

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Publications Highlights

Direct conversion of amino acids to oxetanol bioisosteres via photoredox catalysis.

Delos Reyes, A. M. V.; Nieves Escobar, C. S.; Muñoz, A.; Huffman, M. I.; Tan, D. S.* *Chem Sci.* 2023, *14*, 10524–10531.

[[Abstract](#) | [PubMed](#) | [PMC](#)]

Development of a *p*-hydroxybenzyl-alcohol-linked glutamate prodrug for activation by *Pseudomonas* carboxypeptidase G2.

Lee, J. P.; Corless, B. C.; Gardner, T. J.; Scheinberg, D. A.; Tan, D. S.* *Org. Lett.* 2023, 6295–6299.

[Abstract](#) | [PubMed](#) | [PMC](#)]

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People

Derek Tan, PhD

Chair, Chemical Biology Program, SKI; Tri-Institutional Professor; Eugene W. Kettering Chair

Derek Tan's lab studies diversity-oriented synthesis and rational drug design of probes and lead compounds for chemical biology and drug discovery.

BS, Stanford University

PhD, Harvard University

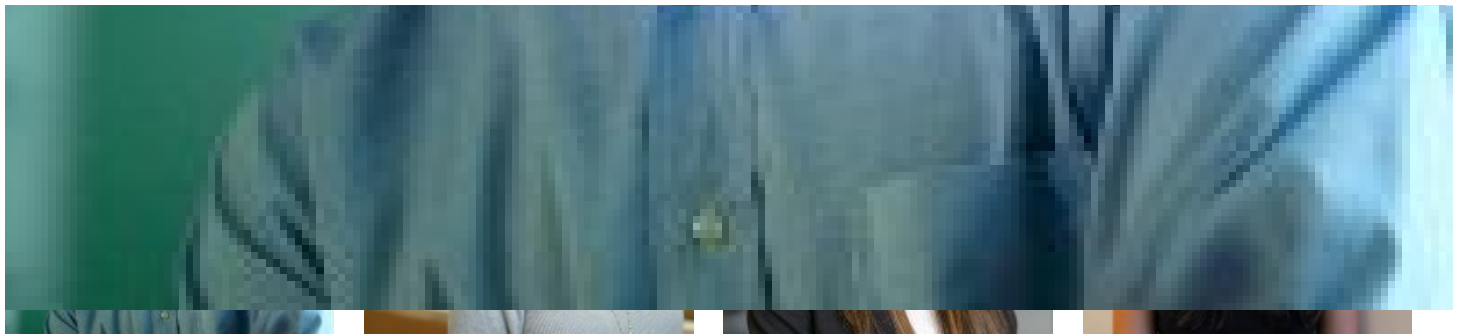
✉ tand@mskcc.org

Email Address

↓ [Download CV](#)

PDF File

Members



Derek Tan

Member and Lab Head

Kristin Hulsaver

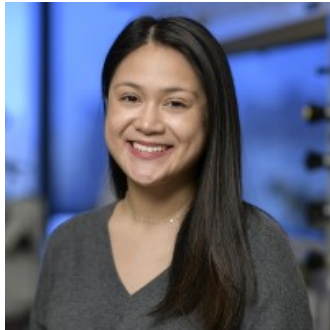
Assistant to Chair

Yaritza Molina

Administrative Assistant

Mia Chung

Research Technician



Avelyn Delos Reyes

Graduate Student



Raphael

Geißen

Graduate Student



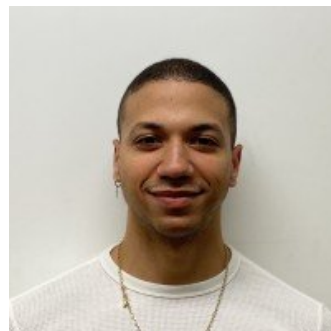
Chad Hatch

Postdoctoral Fellow



Elijah Mugabe

Pharmacology Rotation
Student



Christopher Nieves-
Escobar

Graduate Student



Pooja Pandya

Graduate Student



Okan Yildirim

Postdoctoral Fellow

Alana Williams

TPCB Rotation Student

Lab Alumni

+

Lab Affiliations

+

Achievements

Development of salicyl-AMS, a novel antibacterial agent to treat tuberculosis and other infections

Louise and Allston Boyer Young Investigator Award for Basic Research, Memorial Sloan Kettering Cancer Center (2010)

Dean's Award for Excellence in Teaching and Mentoring, Weill Cornell Graduate School of Medical Sciences (2013)

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](#)

Career Opportunities

Training opportunities in the Tan lab.

[Apply now](#) →

Get in Touch

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☎ [646-888-2228](tel:646-888-2228)

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.

Derek Tan discloses the following relationships and financial interests:

Adjuvance Technologies

Intellectual Property Rights

Aflac Inc.

Equity

Amgen

Equity

CVS Caremark Corp

Equity

ColImmune, Inc.

Equity; Intellectual Property Rights; Professional Services and Activities

Institute for Research of Barcelona

Professional Services and Activities

Medtronic

Equity

Merck & Co Inc.

Equity

Moderna, Inc.

Equity

Regeneron Pharmaceuticals, Inc.

Equity

Research Center for Molecular Medicine of the Austrian Academy of Sciences (CeMM)

Professional Services and Activities

Tri-Institutional Therapeutics Discovery Institute

Fiduciary Role / Position

United Health Group

Equity

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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.

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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