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Memorial Sloan Kettering
Cancer Center



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MOLECULAR PHARMACOLOGY PROGRAM

The Daniel Heller Lab

[Open Positions](#)

[Molecular Pharmacology Program](#)

Research



Daniel A. Heller, PhD
Member, Molecular Pharmacology Program, SKI

Cancer Nanomedicine Laboratory

We are a biomedical engineering laboratory that develops nanotechnologies to advance breakthroughs in the research, diagnosis, and treatment of cancer and allied diseases. We develop drug delivery technologies to target therapies to disease sites, advanced diagnostics to detect disease at earlier stages, and nanosensors to accelerate the discovery of new therapies. Please check out our recent innovations using the “View Lab Overview” button below...

[View Lab Overview](#) →

Research Projects

[Precision Nanomedicines for Targeted Drug Delivery](#)

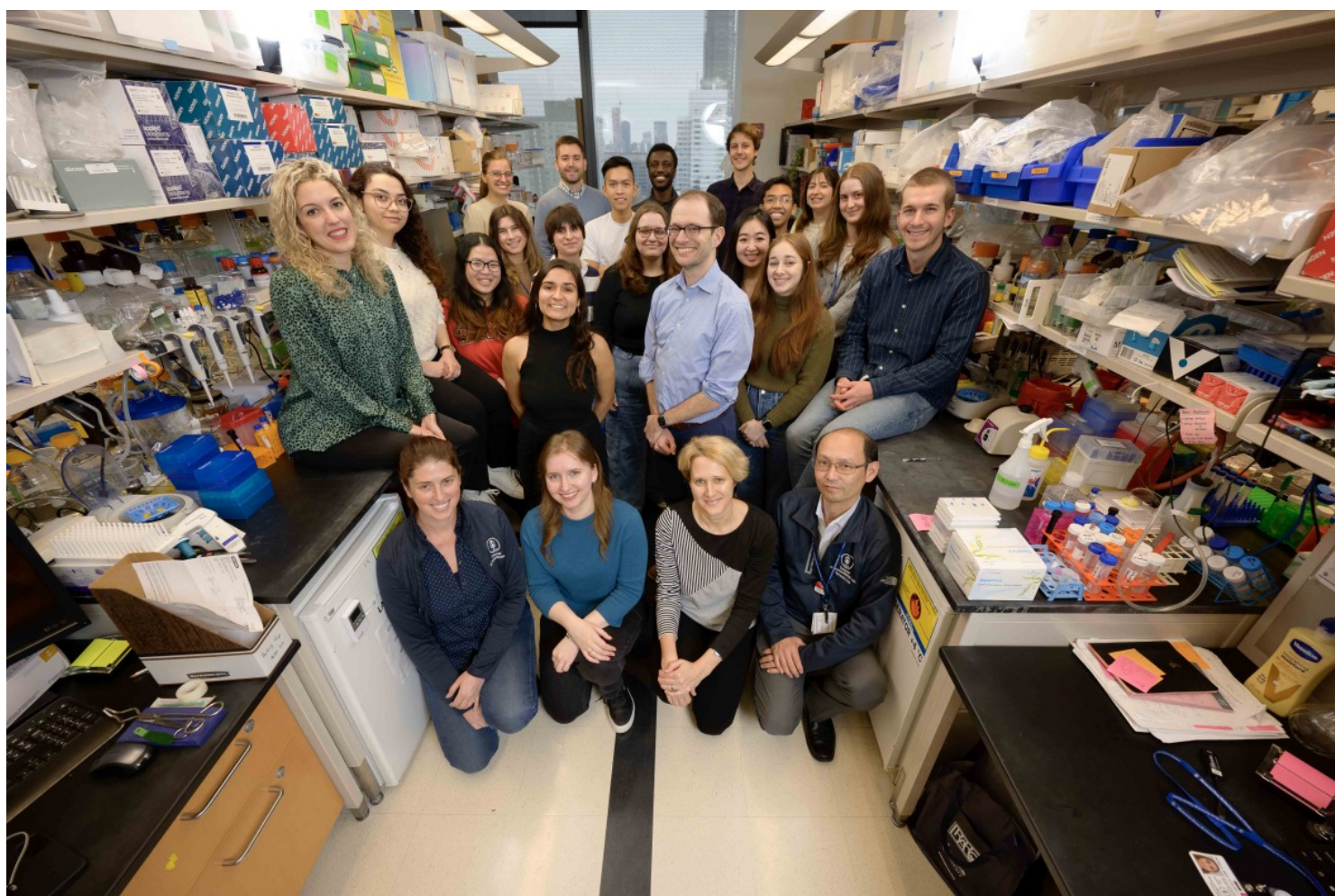
[Diagnostic Technologies for Early Cancer Detection](#)

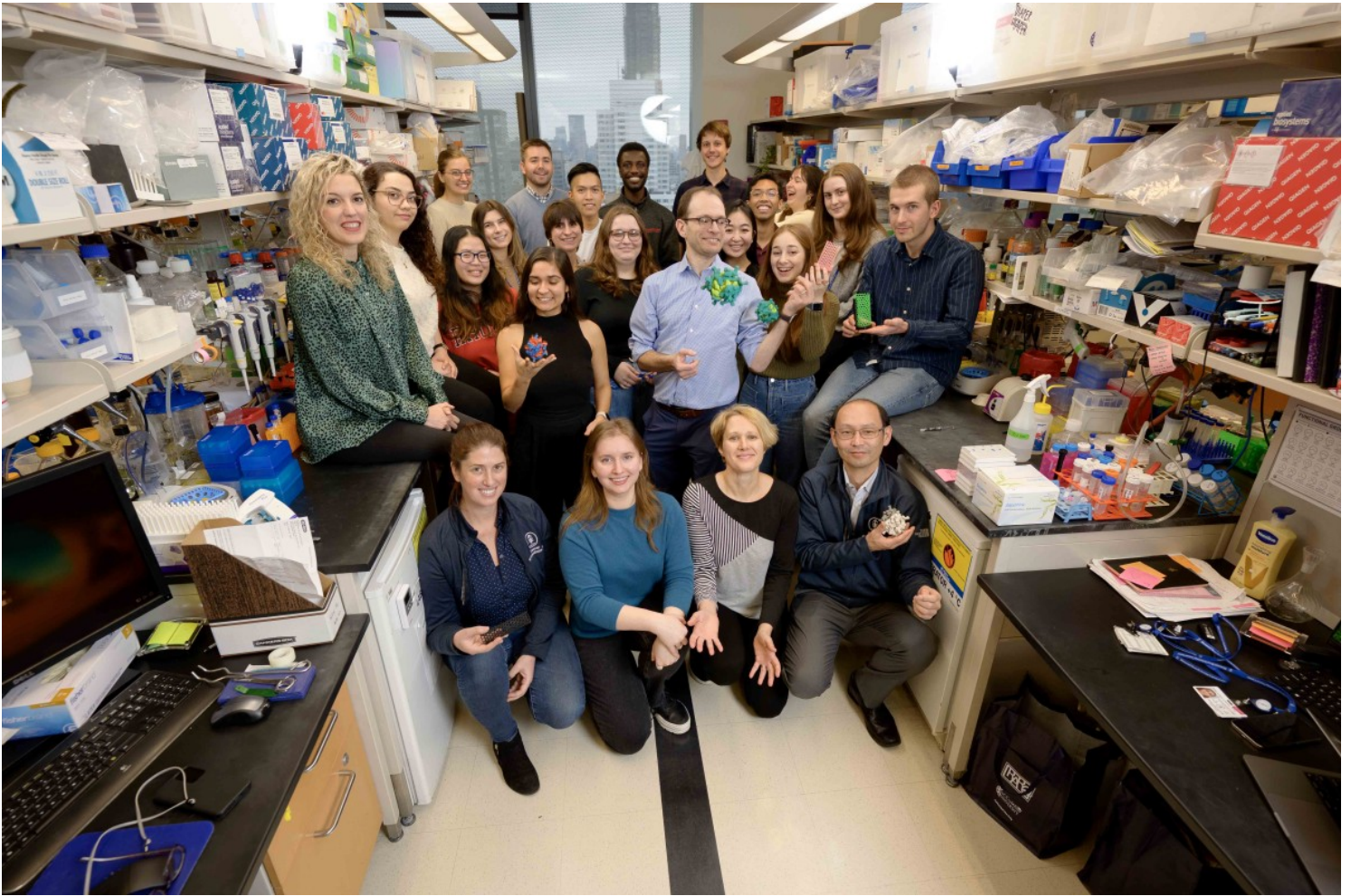
[Nanosensors to Accelerate Cancer Research and Drug Discovery](#)

VIDEO | 02:10

Go inside the lab of Daniel Heller from SKI's Molecular Pharmacology Program.

[Video Details](#) →





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Featured News



[Getting Drugs Across the Blood-Brain Barrier Using Nanoparticles](#)

Learn how MSK researchers are investigating the use of nanoparticles to carry drugs across the blood-brain barrier.



[A Sensor Sniffs for Cancer, Using Artificial Intelligence](#)

By detecting molecular signatures in the blood, the sensor may help improve cancer screenings.



[To Detect Ovarian Cancer Early, Researchers Look to Nanotechnology](#)

Could an implantable IUD help detect cancer early, when it is most curable? Scientists at the Sloan Kettering Institute are betting yes.

[View All Featured News](#)

Publications Highlights

[D Tylawsky, H Kiguchi, J Vaynshteyn, J Gerwin, J Shah, T. Islam, J Boyer, D Boué, M Snuderl, M Greenblatt, Y Shamay, P Raju, DA Heller*](#), "P-selectin-targeted nanocarriers induce active crossing of the blood–brain barrier via caveolin-1-dependent transcytosis. *Nature Materials*. 22,391-399 (2023).

Highlighted in: [MSK News](#) and [Nature Materials News & Views](#)

[M Kim, C Chen, P Wang, JJ Mulvey, Y Yang, C Wun, M Antman-Passig, H-B Luo, S Cho, K Long-Roche, LV Ramanathan, A Jagota, M Zheng, Y Wang, DA Heller*](#). "Machine-Learning-Based Detection of an Ovarian Cancer Disease Fingerprint from Serum via Quantum Defect-Modified Carbon Nanotube Arrays." *Nature Biomedical Engineering* (2022). <https://www.mskcc.org/news/sensor-sniffs-cancer-using-artificial-intelligence>

[Z Yaari, Y Yang, E Apfelbaum, C Cupo, A Settle, Q Cullen, W Cai, K Long Roche, DA Levine, M Fleisher, L Ramanathan, M Zheng, A Jagota, DA Heller*](#). "A Perception-Based Machine-Perception Nanosensor Platform to Detect Cancer Biomarkers." *Science Advances* 7 (2021) eabj0852. MSK News: <https://www.mskcc.org/news/detect-ovarian-cancer-early-researchers-look-nanotechnology>

[J Budhathoki-Uprety, J Shah, JA Korsen, AE Wayne, TV Galassi, JR Cohen, JD Harvey, PV Jena, LV Ramanathan, EA Jaimes, DA Heller*](#). "Synthetic Molecular Recognition Nanosensor Paint for Microalbuminuria." *Nature Communications* 10 (2019) 3605.

[MSK News: <https://www.mskcc.org/news/science-meets-art-produce-diagnostic-test-us...>]

[View All Publications](#)

People



Daniel A. Heller, PhD

Member, Molecular Pharmacology Program, SKI

Biomedical engineer Daniel Heller is Head of the Cancer Nanotechnology Laboratory, which invents disruptive technologies to revolutionize the diagnosis and treatment of cancer and allied diseases.

PhD, University of Illinois at Urbana-Champaign

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PDF File

Members

Lab Head

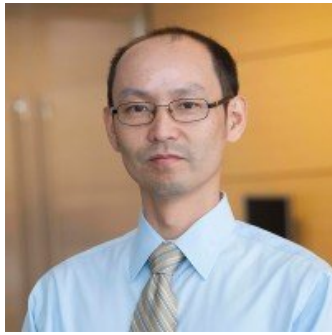
Graduate Student, CUNY
Chemistry PhD Program

CUNY
Chemistry/Nanotechnology
PhD Program Student

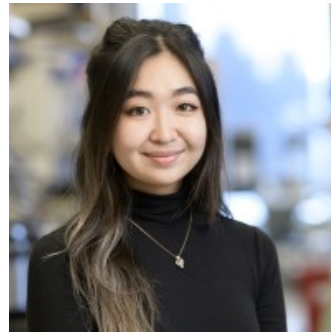


Dana Goerzen
Graduate Student, Weill
Cornell PBSB PhD
Program

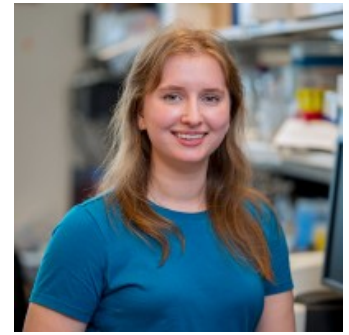
Alec Goffin
Graduate Student



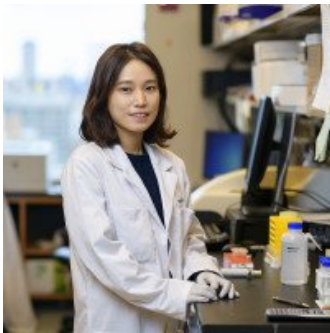
Takeshi Irie
Assistant Attending,
Anesthesiology and
Critical Care



Arianna Izawa-Ishiguro
Pharmacology PhD
Graduate Student



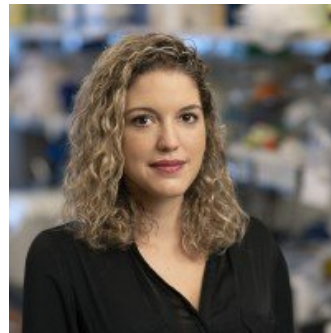
Erin Keblish
Graduate Student, Weill
Cornell PBSB PhD
Program



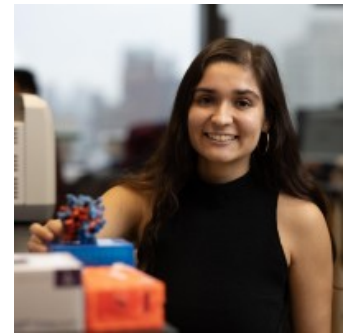
Mijin Kim
Postdoctoral Research
Associate



Quincey LaPlant
Assistant Attending L1,
Radiation Oncology



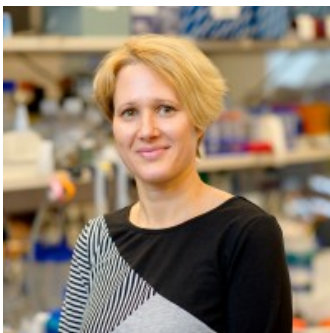
Magdalini
Panagiotakopoulos
Postdoctoral Research
Associate



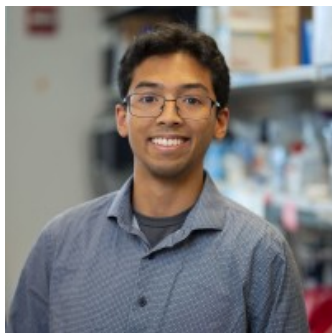
Ana Marie Perea
Research Technician



Stanislav Piletsky
Postdoctoral Scholar



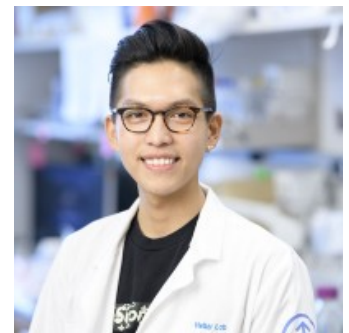
Boglarka Racz
Laboratory Manager



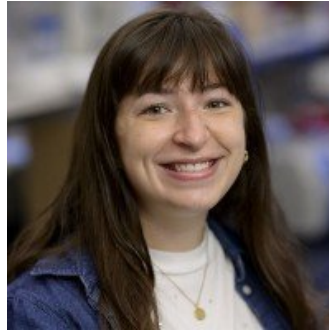
Raashed Raziuddin
Graduate Student, Weill



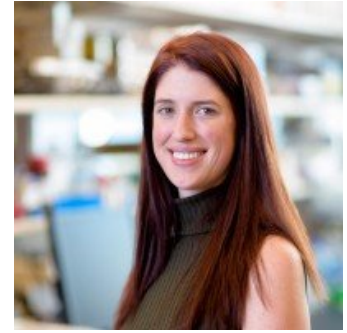
Isabella Richter
Graduate Student



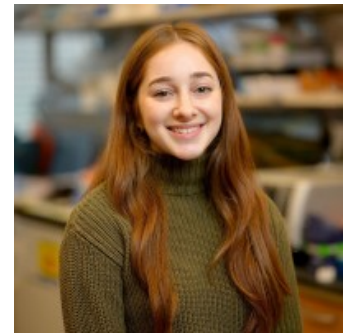
Stephen Ruiz
BCMB PhD Program



Kristen Vogt
Tri-institutional PhD
Program in Chemical
Biology



Laura Wilson
Senior SKI Administrative
Assistant



Jaina Wollowitz
Graduate student, Tri-
Institutional PhD Program
in Chemical Biology

Lab Alumni
+

Lab Affiliations
+

Achievements

College of Liberal Arts and Sciences Young Alumni Award, University of Illinois (2024)
Life Sciences Invention of the Year, UM Ventures (2023)
American Institute for Medical and Biological Engineering (AIMBE) Fellow (2021)
Pharmacology Teaching and Mentoring Award, Weill Cornell Graduate School (2020)
American Cancer Society Research Scholar (2018)

Read more
+

Lab News & Events

UPCOMING EVENT

[Ferroptosis: Mechanisms and Therapeutic Applications](#)

Tuesday, November 19, 2024 - 4:00 PM to 5:00 PM

Memorial Sloan Kettering Cancer Center
Rockefeller Research Laboratories
430 East 67th Street
RRL-120 (Auditorium)
New York, NY 10065

ACCOLADES

Team Recognitions

Congratulations to Magdalini Panagiotakopoulos for winning the AI in Drug Delivery award at CRS 2024 Annual Meeting and Expo!

Congratulations to Jaina Wollowitz on her poster award at the 245th Electrochemical Society Meeting!

Congratulations to Dana Goerzen for being awarded by the Canadian Institutes of Health Research Doctoral Research Award (Funding Number 193220)!

Congratulations to Dana Goerzen for being awarded the General Atlantic Graduate Research Fellowship Award!

Congratulations to Atena Farahpour - awarded the Fall 2023 NanoBioNYC student award in Biomedical Materials!

Congratulations to Dr. Mijin Kim for being selected as a 2023 STAT Wunderkind! The award recognizes the work of early-career scientists and clinicians.

Congratulations to Chen Chen on the Best Poster Award at the 19th Annual Tri-institutional Chemical Biology Symposium!

Congratulations to Mijin Kim on winning the 2023 MSK Postdoctoral Researcher

Award!

Congratulations to Dr. Mijin Kim - NIH
K99/R00 awardee!

Congratulations to Naxhije Berisha - Tow
Fellowship Awardee!

Congratulations to Dr. Mijin Kim - Kravis
WiSE Postdoctoral Fellowship Winner!

Congratulations to Stephen Ruiz - awarded
the MERIT Mandel Graduate Fellowship!

Congratulations to Magdalini
Panagiotakopoulos – Tow Postdoctoral
Fellowship Awardee!

Congratulations to Dr. Mijin Kim – MIT
Technology Review 35 Under 35 Innovator!

Congratulations to Magdalini
Panagiotakopoulos on winning the
Controlled Release Society Poster Prize

Congratulations to Erin Keblish on winning
the 2023 Electrochemical Society Best
Poster Award for Industrial/Applied
Science

Congratulations to Magdalini
Panagiotakopoulos for winning 2nd place
and the People's Choice Award in the 2023
MSK Postdoc Slam

Congratulations to Stephen Ruiz for
winning the 63rd International Conference
on the Bioscience of Lipids Oral
Communication Award!!

Congratulations to Mijin Kim for winning the
2023 STAT Wunderkind Award!!

<https://twitter.com/HellerLab>

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](#)

Get in Touch

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Lab Head Email

 [646-888-3419](tel:646-888-3419)

Office 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.

Daniel A. Heller discloses the following relationships and financial interests:

Celine Therapeutics

Equity; Professional Services and Activities (Uncompensated)

Concarlo Therapeutics, Inc.

Professional Services and Activities

Lime Therapeutics, Inc.

Equity; Professional Services and Activities (Uncompensated)

Mediphage Bioceuticals, Inc.

Equity; Professional Services and Activities (Uncompensated)

METiS Therapeutics Inc.

Intellectual Property Rights; Professional Services and Activities (Uncompensated)

Nanorobotics, Inc.

Equity; Professional Services and Activities (Uncompensated)

Nine Diagnostics, Inc.

Equity; Fiduciary Role / Position; Professional Services and Activities (Uncompensated)

Selectin Therapeutics, Inc.

Equity; Professional Services and Activities (Uncompensated)

Singapore-MIT Alliance for Research and Technology

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, 2023 through disclosure submission in spring 2024). 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

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