

Ready to start planning your care? Call us at [800-525-2225](tel:800-525-2225) to make an appointment.

×



Memorial Sloan Kettering  
Cancer Center



[About Us](#)  
[Memorial Sloan Kettering Institute](#)

[Research](#)

[Education & Training](#)

[News & Events](#)

MOLECULAR PHARMACOLOGY PROGRAM

[Open Positions](#)

## The Daniel Heller Lab

[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](#)

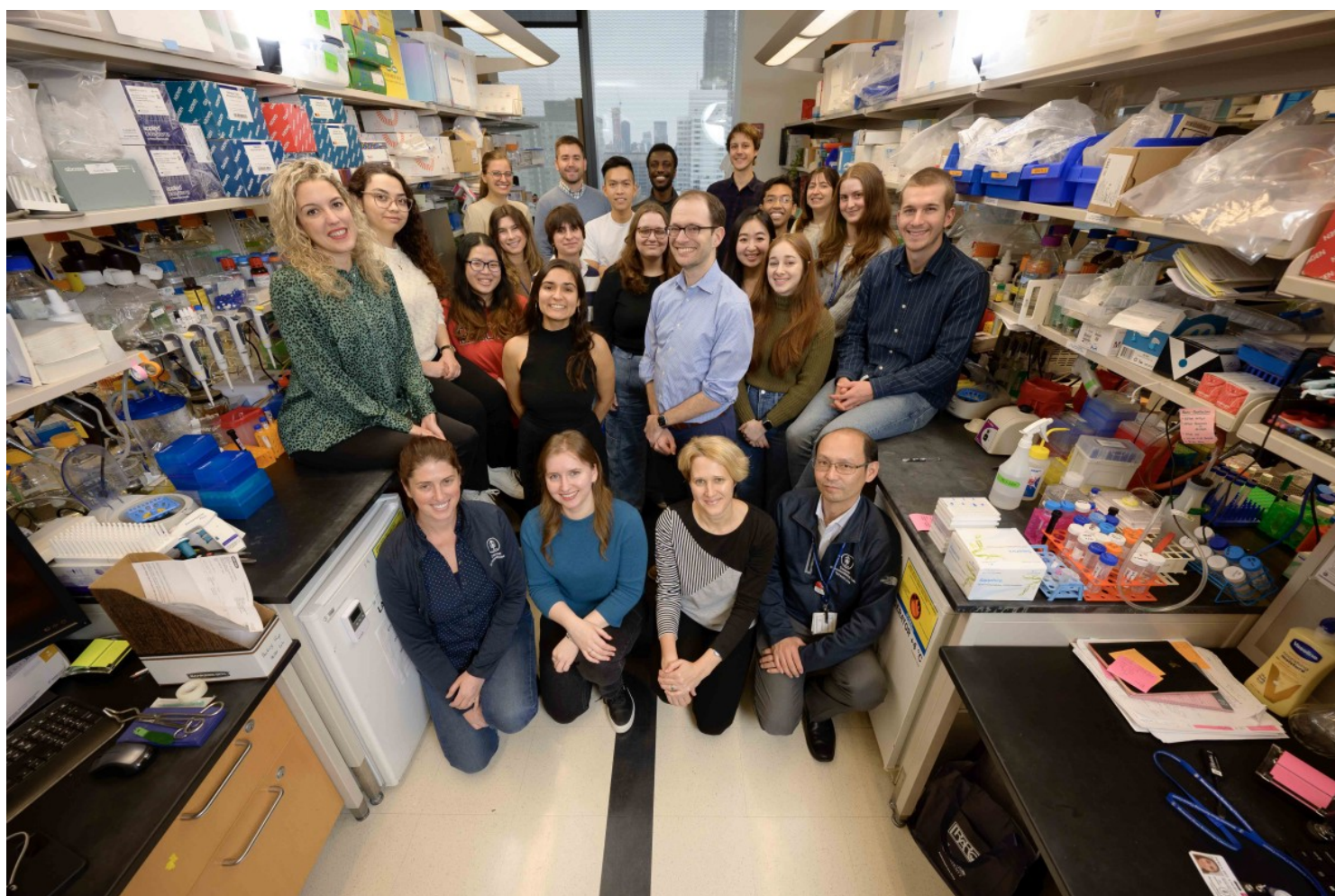
[Diagnostic Technologies for Early Cancer Detection](#)

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

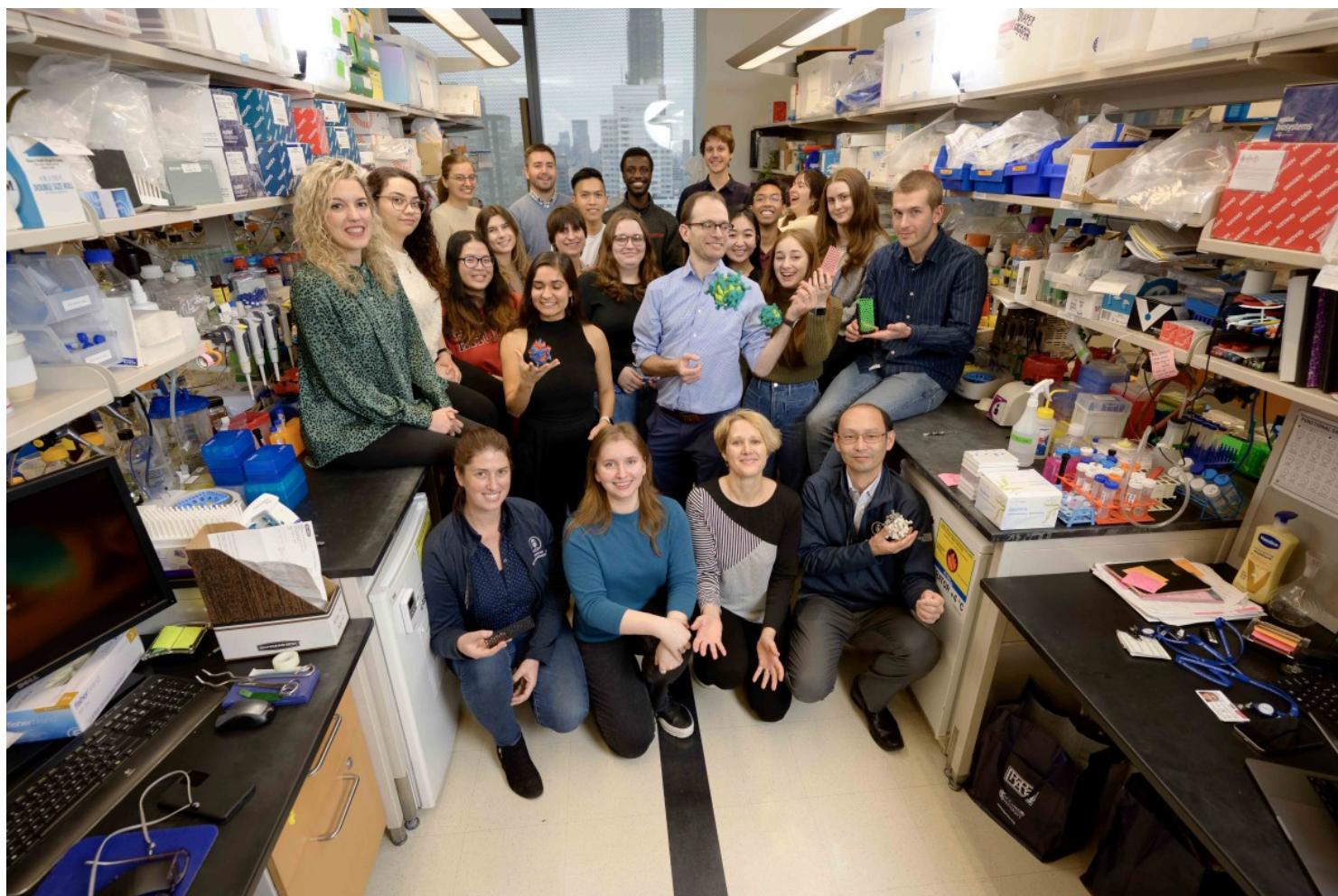
VIDEO | 02:10

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

[Video Details](#) →







&lt;

&gt;

## 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

 [hellerd@mskcc.org](mailto:hellerd@mskcc.org)

Email Address

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

Office Phone

 [Download CV](#)

PDF File

## Members

Lab Head

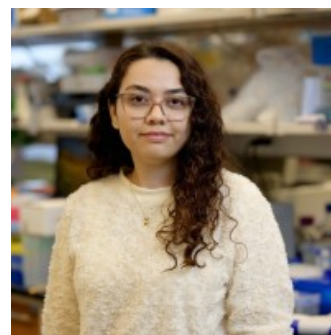
Graduate Student

Asariani

Graduate Student, CUNY  
Chemistry PhD Program

CUNY

Chemistry/Nanotechnology  
PhD Program Student

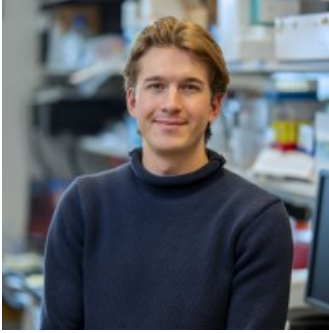




Atena Farahpour

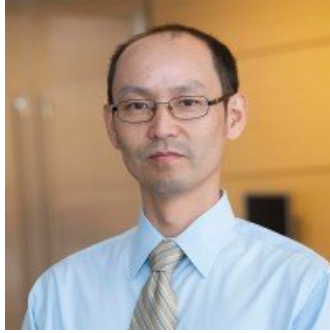
CUNY

Chemistry/Nanotechnology  
PhD Program Student



Dana  
Goerzen

Graduate Student, Weill  
Cornell PBSB PhD  
Program



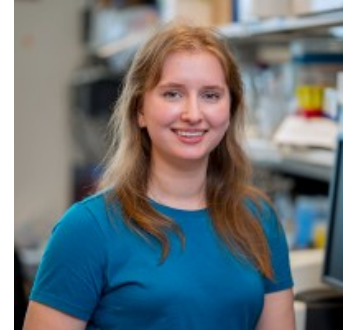
Takeshi Irie

Assistant Attending,  
Anesthesiology and  
Critical Care



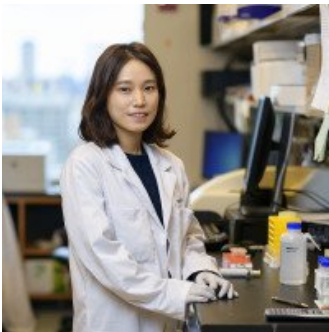
Arianna Izawa-  
Ishiguro

Pharmacology PhD  
Graduate Student



Erin  
Keblish

Graduate Student, Weill  
Cornell PBSB PhD  
Program



Mijin Kim

Postdoctoral Research  
Associate



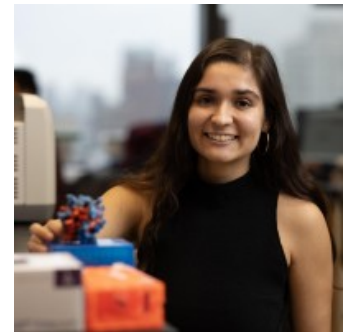
Quincey LaPlant

Assistant Attending L1,  
Radiation Oncology



Magdalini  
Panagiotakopoulos

Postdoctoral Research  
Associate



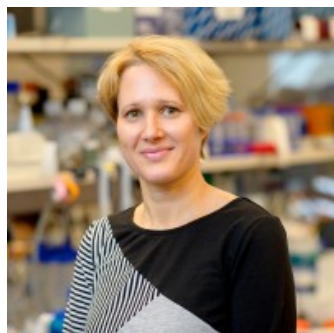
Ana Marie  
Perea

Research Technician

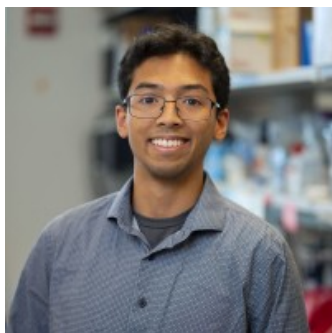


Stanislav  
Piletsky

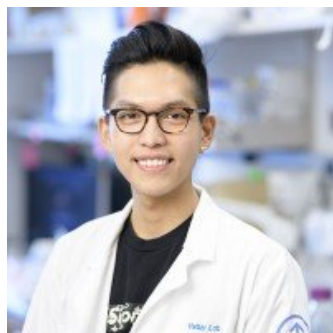
Postdoctoral Scholar



**Boglarka  
Racz**  
Laboratory Manager



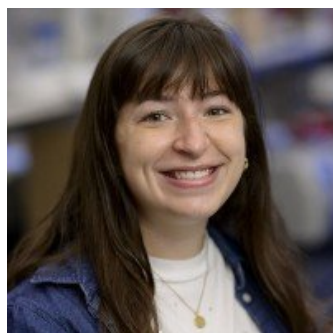
**Raashed  
Raziuddin**  
Graduate Student, Weill  
Cornell Pharmacology  
PhD Program



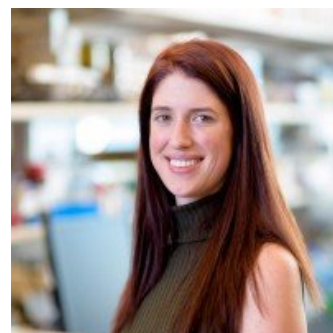
**Stephen Ruiz**  
BCMB PhD Program  
Student



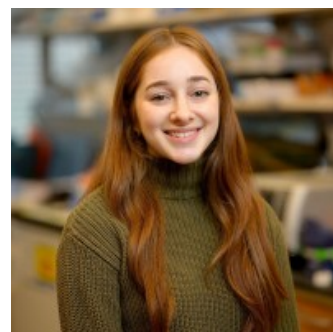
**Ashley  
Sullivan**  
MSK Bridge Program  
Scholar



**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

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)  
NSF CAREER Award (2018)  
Pershing Square Sohn Prize for Young Innovators in Cancer Research (2017)

Read more

+

## Lab News & Events

### UPCOMING EVENT

[Microenvironment actuated CAR T cells improve solid tumor efficacy without toxicity](#)

Wednesday, May 22, 2024 - 12:45 PM to 2:45 PM

Stern Auditorium

The Mount Sinai Hospital

1468 Madison Ave, New York, NY 10029

[View all upcoming events](#)

### ACCOLADES

## Team Recognitions

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>

## Get in Touch

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

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:

Concarlo Therapeutics, Inc.

Professional Services and Activities

Lime Therapeutics, Inc.

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

Mediphage Bioceuticals, Inc.

Equity; Professional Services and Activities (Uncompensated)

Nanorobotics, Inc.

Equity

Resident Diagnostics, Inc.

Equity; Professional Services and Activities (Uncompensated)

Selectin Therapeutics, Inc.

Equity; Professional Services and Activities (Uncompensated)

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.

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](mailto:ecoi@mskcc.org).

[View all disclosures](#) →

## ▾ About Us

[Overview](#)

[Leadership](#)

[Administration](#)

[History](#)

[Contact Us](#)





## ▼ Research

[Overview](#)

[Research programs](#)

[Research labs](#)

[Core facilities & resources](#)

## ▼ Education & Training

[Overview](#)

[Postdoctoral training](#)

[Gerstner Sloan Kettering Graduate School](#)

[Joint graduate programs](#)

[Programs for college & high school students](#)

## ▼ News & Events

[Overview](#)

[Seminars & events](#)

## ▼ Open Positions

[Overview](#)

[Faculty positions](#)

[Postdoctoral positions](#)

---

[Communication preferences](#)

[Cookie preferences](#)

[Legal disclaimer](#)

[Accessibility Statement](#)

[Privacy policy](#)

[Public notices](#)

© 2024 Memorial Sloan Kettering Cancer Center