Stanford

Ai Mochida

Postdoctoral Scholar, Radiation Therapy

Bio

HONORS AND AWARDS

- Cellular and Molecular Bioengineering (CMBE) Graduate Student Travel Award, Biomedical Engineering Society (2024)
- Graduate Research Fellowship Program (GRFP), National Science Foundation (NSF) (2020)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Cornell University (2026)
- Doctor of Philosophy, University of Pennsylvania (2026)
- BS, Cornell University , Biomedical Engineering (2020)
- PhD, University of Pennsylvania , Bioengineering (2026)

STANFORD ADVISORS

- Jason Ross, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

In the Ross lab, I study hematopoietic stem cell biology in aging and cancer.

Publications

PUBLICATIONS

- **Mechanotransduction through LFA-1 controls upstream migration in the KG-1a stem cell line.** *Journal of cell science*
  Mochida, A., Valerio, E., Burkhardt, J. K., Hammer, D. A.
  2026; 139 (19)
- **Inhibition of Mac-1 allows human macrophages to migrate against the direction of shear flow on ICAM-1.** *Molecular biology of the cell*
  Mittal, A., Guin, S., Mochida, A., Hammer, D. A., Buffone, A.
  2024; 35 (10): br18
- **Not all (cells) who wander are lost: Upstream migration as a pervasive mode of amoeboid cell motility** *FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY*
  Buffone Jr, A., Hammer, D. A., Kim, S., Anderson, N. R., Mochida, A., Lee, D., Guin, S.
  2023; 11
- **Detergent-Free Decellularization Preserves the Mechanical and Biological Integrity of Murine Tendon.** *Tissue engineering. Part C, Methods*
  Marvin, J. C., Mochida, A., Paredes, J., Vaughn, B., Andarawis-Puri, N.
  2022; 28 (12): 646-655
- **Pitfalls on sample preparation for ex vivo imaging of resected cancer tissue using enzyme-activatable fluorescent probes.** *Oncotarget*
  Mochida, A., Ogata, F., Maruoka, Y., Nagaya, T., Okada, R., Inagaki, F., Fujimura, D., Choyke, P. L., Kobayashi, H.
  2018; 9 (89): 36039-36047

- **Activatable fluorescent probes in fluorescence-guided surgery: Practical considerations.** *Bioorganic & medicinal chemistry*
  Mochida, A., Ogata, F., Nagaya, T., Choyke, P. L., Kobayashi, H.
  2018; 26 (4): 925-930

- **A topically-sprayable, activatable fluorescent and retaining probe, SPiDER-βGal for detecting cancer: Advantages of anchoring to cellular proteins after activation.** *Oncotarget*
  Nakamura, Y., Mochida, A., Nagaya, T., Okuyama, S., Ogata, F., Choyke, P. L., Kobayashi, H.
  2017; 8 (24): 39512-39521

- **Nanodrug Delivery: Is the Enhanced Permeability and Retention Effect Sufficient for Curing Cancer?** *Bioconjugate chemistry*
  Nakamura, Y., Mochida, A., Choyke, P. L., Kobayashi, H.
  2016; 27 (10): 2225-2238