

Alexander J. Najibi

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Profile

Cancer immunologist and biotech startup consultant with an exceptionally strong scientific background (4.0 GPA through a decade of courses at UC Berkeley, Harvard, and MIT and co-author of 12 publications since 2018). Experienced assessing pre-clinical and clinical data sets and therapeutic landscapes; passionate about translational research benefiting human health.

Education

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| PhD | Engineering Sciences, Harvard University
NSF Graduate Research Fellow, GPA 4.0/4.0. | Aug 2016 – May 2022 |
| BS | Bioengineering, University of California at Berkeley
Regents and Chancellor's Scholar, Dean's Honors, GPA 4.0/4.0. | Aug 2012 – May 2016 |

Research Experience

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| Postdoctoral fellow , David Mooney Lab, Harvard University | June 2022 – present |
| <ul style="list-style-type: none">Leading validation of a novel, biomaterial-based vaccine technology for clinical translation by identifying and executing pivotal experiments. | |
| PhD researcher , David Mooney Lab, Harvard University | Aug 2016 – May 2022 |
| <ul style="list-style-type: none">Investigated biomaterials for immuno-oncology and tissue engineering, gaining proficiency and publishing in diverse therapeutic areas (solid and liquid tumors, infectious disease, muscle injury and atrophy, hematopoietic stem cell transplantation).Directed team-based projects focused on research translation with collaborating hospitals, academic institutions, and biotech industry leaders.Mentored three undergraduate/master's students through Amgen and SPARC programs.Experienced in flow cytometry/FACS, IHC/IF, microscopy, material synthesis, 3D cell culture, hydrogels, <i>in vivo</i> experimentation (tumor models and tissue engineering). | |
| Undergraduate researcher , Kevin Healy Lab, UC Berkeley | June 2014 – May 2016 |
| <ul style="list-style-type: none">Designed a microfluidic, point-of-care CD4⁺ T cell enumeration device for HIV monitoring.Led device testing team, trained new members, and presented at engineering symposium.Developed expertise in data analysis, interpretation, and presentation. | |

Leadership and Professional Experience

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| Freelance scientific writer , ACIR.org | Nov 2018 – present |
| Generated concise summaries of 130+ cancer immunotherapy journal articles and assisted with fundraising and publicity. Effectively communicated scientific findings to a general audience. Spearheaded ACIR's freelance writing program, now a team of ten, through a cold email. | |
| Consultant , Gel4Med, Indee Labs, Inia Biosciences | Aug 2019 – present |
| <ul style="list-style-type: none">Analyzed preclinical data sets and developed scientific strategy for Gel4Med, revising grants to secure research funding for bacterial infection and wound healing.Reviewed literature and therapeutic landscape on CAR-T manufacture for cancer therapy for Indee Labs, identifying unmet needs. Prepared blog-style summaries for publicity.Identified unmet needs in kidney transplantation for Inia through KOL interviews; pursued tech commercialization through customer discovery in the NSF/MIT's I-Corps program. | |

Chief Marketing Officer, “Homemade,” European Innovation Academy June – July 2015
Created a diverse, multinational team to launch a tech startup in an intensive entrepreneurship program in Nice, France. As CMO, formulated a marketing strategy, pitched to investors, and acquired pre-seed funding to attract 650+ interested users.

Selected Publications (* indicates co-first authorship.)

- **Najibi, A.J.** et al. Targeting tumor extracellular matrix activates the tumor-draining lymph nodes. *Cancer Immunology, Immunotherapy* 2022.
- **Najibi, A.J.** et al. Scaffold Vaccines for Generating Robust and Tunable Antibody Responses. *Advanced Functional Materials* 2022.
- **Najibi, A.J.***, Shih, T-Y.*, Mooney, D.J. Cryogel vaccines effectively induce immune responses independent of proximity to the draining lymph nodes. *Biomaterials* 2022.
- Wang, H.*, **Najibi, A.J.*** et al. Biomaterial-based scaffold for in situ chemo-immunotherapy to treat poorly immunogenic tumors. *Nature Communications* 2020.
- **Najibi, A.J.**, Mooney D.J. Cell and tissue engineering in lymph nodes for cancer immunotherapy. *Advanced Drug Delivery Reviews* 2020.
- Shah, N.J.*, **Najibi, A.J.*** et al. A biomaterial-based vaccine eliciting durable tumour-specific responses against acute myeloid leukaemia. *Nature Biomedical Engineering* 2020.
- Kwee, B.J., Seo, B-R., **Najibi, A.J.** et al. Treating ischemia via recruitment of antigen-specific T cells. *Science Advances* 2019.
- Nam, S., Seo, B-R., **Najibi, A.J.** et al. Active tissue adhesive activates mechanosensors and prevents muscle atrophy. *Nature Materials*, resubmitted.
- Elosegui-Artola, A.*, Gupta, A.*, **Najibi, A.J.** et al. Matrix viscoelasticity controls spatio-temporal tissue organization. *Nature Materials*, accepted.

Patent

U.S. Provisional Patent Application No. 62/904,446. “Biomaterial-based antigen free vaccine and the use thereof,” Alexander J. Najibi *et al.*, filed 2019, now exclusively licensed.

Selected Presentations

- “Combination chemotherapy and gel-based vaccination to treat diverse cancers,” Drexel Immune Modulation & Engineering Symposium, poster/video (virtual), Dec 2021.
- “Immunology and immune engineering,” invited lecture at Harvard University’s ES53 “Physiological Foundations for Bioengineering” course, Nov 2021.
- “A cryogel-based cancer vaccine against acute myeloid leukemia,” AACR Virtual Special Conference: Tumor Immunology and Immunotherapy, poster/video (virtual), Oct 2020.
- “Antigen-free therapeutic vaccines,” Wyss Institute Symposium, selected speaker for a broad audience of 250+, Nov 2019.
- “Introduction to project management,” invited lecture at Harvard University’s ES96 “Engineering problem solving and design” course, Sep 2017.

Additional Experience and Hobbies

- **Professional writing**, published in Harvard’s *Science in the News* (2020), *The Crimson* (2020).
- **Resident assistant**, UC Berkeley and Harvard University (2013-2019). Planned and marketed social events, mediated conflict situations, and individually counseled 250+ students.
- **Standup and improv comedy**, performed in the Bay Area, Los Angeles, Boston, Canada.
- **#SciComm/public engagement**, created a science TikTok video with 925k views/100k likes.