



Jagannath Padmanabhan

- Postdoctoral Research Fellow, Plastic and Reconstructive Surgery
- Application Reviewer, Stanford Pre-Collegiate Studies Operations
- Science Circle Instructor, Stanford Pre-Collegiate Studies Operations

Bio

BIO

Jagannath (Jagan) Padmanabhan, PhD is a postdoctoral research fellow in Dr. Geoffrey Gurtner's laboratory in the Department of Surgery at Stanford University. He is a bioengineer by training (PhD, Yale University 2016) and his research interests lie at the interface of bioengineering, surgery and data science. In Dr. Gurtner's lab, Jagan is exploring the role of mechanical signaling in biomedical implant failure. He also contributes to the development of novel biomaterials for wound healing applications. He uses single cell sequencing, bioinformatics, bioengineering tools, small animal surgical models and clinical specimens to interrogate fibrotic events at the biomaterial-tissue interface and during wound healing.

Jagan is also passionate about science education and public engagement with science. He teaches STEM courses for high school students in collaboration with the Stanford pre-collegiate Institutes every summer. He also runs a blog for scientists, seekers and skeptics at www.sciencers.org.

Quick fact: Four languages and counting.

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Yale University (2016)
- Master of Philosophy, Yale University (2013)
- Master of Science, Yale University (2013)
- Master of Engineering, Cornell University (2011)
- Bachelor of Technology, Anna University (2010)

STANFORD ADVISORS

- Geoffrey Gurtner, Postdoctoral Faculty Sponsor
- Geoffrey Gurtner, Postdoctoral Research Mentor

COMMUNITY AND INTERNATIONAL WORK

- Sciencers.org
- Chair, Gordon Research Seminar on Biomaterials & Tissue Engineering, 2015

PATENTS

- Emily R. Kinser, Themis Kyriakides, Jagannath Padmanabhan. "United States Patent US10213144B2 Nanopatterned biosensor electrode for enhanced sensor signal and sensitivity", International Business Machines Corporation, Yale University, Feb 26, 2019

LINKS

- Google Scholar: https://scholar.google.com/citations?hl=en&user=UcM7zG8AAAAJ&view_op=list_works&sortby=pubdate
- LinkedIn: <https://www.linkedin.com/in/jaganpadmanabhan/>
- Scieners.org: <http://scieners.org/>

Publications

PUBLICATIONS

- **In Vivo Models for the Study of Fibrosis** *ADVANCES IN WOUND CARE*
Padmanabhan, J., Maan, Z. N., Kwon, S., Kosaraju, R., Bonham, C. A., Gurtner, G. C.
2019
- **In Vivo Models for the Study of Fibrosis.** *Advances in wound care*
Padmanabhan, J., Maan, Z. N., Kwon, S. H., Kosaraju, R., Bonham, C. A., Gurtner, G. C.
2019; 8 (12): 645–54
- **Controlled Delivery of a Focal Adhesion Kinase Inhibitor Results in Accelerated Wound Closure with Decreased Scar Formation.** *The Journal of investigative dermatology*
Ma, K., Kwon, S. H., Padmanabhan, J., Duscher, D., Trotsyuk, A. A., Dong, Y., Inayathullah, M., Rajadas, J., Gurtner, G. C.
2018
- **Disease models: Method in the madness of fibrosis.** *Nature materials*
Gurtner, G. C., Padmanabhan, J.
2017; 16 (12): 1176–77
- **Nanopatterned Bulk Metallic Glass Biosensors.** *ACS sensors*
Kinser, E. R., Padmanabhan, J., Yu, R., Corona, S. L., Li, J., Vaddiraju, S., Legassey, A., Loye, A., Balestrini, J., Solly, D. A., Schroers, J., Taylor, A. D., Papadimitrakopoulos, et al
2017
- **Regulation of cell-cell fusion by nanotopography.** *Scientific reports*
Padmanabhan, J., Augelli, M. J., Cheung, B., Kinser, E. R., Cleary, B., Kumar, P., Wang, R., Sawyer, A. J., Li, R., Schwarz, U. D., Schroers, J., Kyriakides, T. R.
2016; 6: 33277
- **Nanomaterials, Inflammation, and Tissue Engineering** *WILEY INTERDISCIPLINARY REVIEWS-NANOMEDICINE AND NANOBIO TECHNOLOGY*
Padmanabhan, J., Kyriakides, T. R.
2015; 7 (3): 355-370
- **Engineering Cellular Response Using Nanopatterned Bulk Metallic Glass** *ACS NANO*
Padmanabhan, J., Kinser, E. R., Stalter, M. A., Duncan-Lewis, C., Balestrini, J. L., Sawyer, A. J., Schroers, J., Kyriakides, T. R.
2014; 8 (5): 4366-4375
- **Age-associated intracellular superoxide dismutase deficiency potentiates dermal fibroblast dysfunction during wound healing** *EXPERIMENTAL DERMATOLOGY*
Fujiwara, T., Dohi, T., Maan, Z. N., Rustad, K. C., Kwon, S., Padmanabhan, J., Whittam, A. J., Suga, H., Duscher, D., Rodrigues, M., Gurtner, G. C.
2019; 28 (4): 485–92
- **The Interplay of Mechanical Stress, Strain, and Stiffness at the Keloid Periphery Correlates with Increased Caveolin-1/ROCK Signaling and Scar Progression.** *Plastic and reconstructive surgery*
Dohi, T., Padmanabhan, J., Akaishi, S., Than, P. A., Terashima, M., Matsumoto, N. N., Ogawa, R., Gurtner, G. C.
2019; 144 (1): 58e–67e
- **TOPICAL DELIVERY OF A FOCAL ADHESION KINASE INHIBITOR RESULTS IN ACCELERATED WOUND HEALING WITH REDUCED SCARRING IN A PORCINE WOUND MODEL**
Kwon, S., Ma, K., Duscher, D., Padmanabhan, J., Dong, Y., Inayathullah, M., Rajadas, J., Gurtner, G. C.
WILEY.2018: A13

- **Nanopatterned bulk metallic glass-based biomaterials modulate macrophage polarization.** *Acta biomaterialia*
Shayan, M., Padmanabhan, J., Morris, A. H., Cheung, B., Smith, R., Schroers, J., Kyriakides, T. R.
2018
- **Topical Delivery of a Focal Adhesion Kinase Inhibitor Results in Accelerated Wound Healing with Reduced Scarring in a Porcine Wound Model**
Kwon, S., Ma, K., Duscher, D., Padmanabhan, J., Dong, Y., Inayathullah, M., Rajadas, J., Gurtner, G. C.
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- **Age-Associated Intracellular Superoxide Dismutase Deficiency Potentiates Dermal Fibroblast Dysfunction During Wound Healing.** *Experimental dermatology*
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2017
- **The Role of Focal Adhesion Kinase in Keratinocyte Fibrogenic Gene Expression.** *International journal of molecular sciences*
Januszyk, M., Kwon, S. H., Wong, V. W., Padmanabhan, J., Maan, Z. N., Whittam, A. J., Major, M. R., Gurtner, G. C.
2017; 18 (9)
- **Combinatorial development of antibacterial Zr-Cu-Al-Ag thin film metallic glasses.** *Scientific reports*
Liu, Y., Padmanabhan, J., Cheung, B., Liu, J., Chen, Z., Scanley, B. E., Wesolowski, D., Pressley, M., Broadbridge, C. C., Altman, S., Schwarz, U. D., Kyriakides, T. R., Schroers, et al
2016; 6: 26950
- **Introduction.** *Yale journal of biology and medicine*
Padmanabhan, J., Kinser, E.
2013; 86 (4): 525-?
- **The effects of extracellular matrix proteins on neutrophil-endothelial interaction--a roadway to multiple therapeutic opportunities.** *Yale journal of biology and medicine*
Padmanabhan, J., Gonzalez, A. L.
2012; 85 (2): 167-185