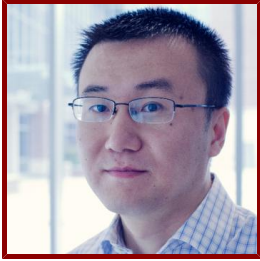


Stanford



Bo Wang

Assistant Professor of Bioengineering and, by courtesy, of Developmental Biology

Bio

BIO

We are a discovery-driven research group working at the interface between statistical physics, developmental biology, and bioengineering. We combine quantitative organism-wide fluorescence imaging ("deep imaging"), functional genomics ("deep sequencing"), and statistical modeling to study systems biology and evolutionary cell biology of flatworms, including free living planarians and parasitic flukes. Using these animals, we seek to understand quantitatively the fundamental rules that control stem cell collective behavior to optimize tissue regeneration, remodeling, and adaptation.

ACADEMIC APPOINTMENTS

- Assistant Professor, Bioengineering
- Assistant Professor (By courtesy), Developmental Biology
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Beckman Young Investigator Award, Arnold and Mabel Beckman Foundation (2017)
- Hellman Faculty Scholar Award, Hellman Fellows Fund (2017)
- Baxter Faculty Scholar Award, Donald E. and Delia B. Baxter Foundation (2016)
- Career Award at the Scientific Interface, Burroughs Wellcome Fund (2013)
- Victor K. LaMer Award, American Chemical Society (2012)
- Frank J. Padden, Jr. Award, American Physical Society (2010)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Faculty Fellow, Stanford Center for Innovation in Global Health (2015 - present)

PROFESSIONAL EDUCATION

- Ph.D., University of Illinois, Urbana-Champaign , Materials Science (2011)
- M.S., B.S., Zhejiang University , Materials Science (2006)

Teaching

COURSES

2019-20

- Fundamentals for Engineering Biology Lab: BIOE 44 (Aut, Spr)
- Special Topics in Development and Cancer: Evolutionary and Quantitative Perspectives: BIOE 219 (Win)

2018-19

- Fundamentals for Engineering Biology Lab: BIOE 44 (Spr)

2017-18

- Senior Capstone Design II: BIOE 141B (Win)
- Special Topics in Development and Cancer: Evolutionary and Quantitative Perspectives: BIOE 219, DBIO 219 (Win)

2016-17

- Special Topics in Development and Cancer: Evolutionary and Quantitative Perspectives: BIOE 219, DBIO 219 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Esha Atolia, Kara Brower, Paul Bump, Deepak Krishnamurthy, Ellie Labuz, Erin Sanders, Wanxin Wang, Yuan Xue

Postdoctoral Faculty Sponsor

Jiayin Hong

Doctoral Dissertation Advisor (AC)

Sam Bray, Chew Chai, Yuhang Fan, Jesse Gibson, Nelson Hall, Margarita Khariton, Pengyang Li, Dania Nanes Sarfati, Alec Tarashansky, Livia Wyss

Master's Program Advisor

Cameron Park

Doctoral (Program)

Chew Chai, Yuhang Fan, Pengyang Li, Misha Raffiee, Alec Tarashansky, Pranav Vyas, Peter Washington, Yuan Xue

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (Phd Program)
- Developmental Biology (Phd Program)

Publications

PUBLICATIONS

- **Memoryless self-reinforcing directionality in endosomal active transport within living cells** *NATURE MATERIALS*
Chen, K., Wang, B., Granick, S.
2015; 14 (6): 589-593
- **Functional genomic characterization of neoblast-like stem cells in larval *Schistosoma mansoni*** *ELIFE*
Wang, B., Collins, J. J., Newmark, P. A.
2013; 2
- **Adult somatic stem cells in the human parasite *Schistosoma mansoni*** *NATURE*
Collins, J. J., Wang, B., Lambrus, B. G., Tharp, M. E., Iyer, H., Newmark, P. A.
2013; 494 (7438): 476-479
- **When Brownian diffusion is not Gaussian** *NATURE MATERIALS*
Wang, B., Kuo, J., Bae, S. C., Granick, S.
2012; 11 (6): 481-485
- **Confining Potential when a Biopolymer Filament Reptates** *PHYSICAL REVIEW LETTERS*

-
- Wang, B., Guan, J., Anthony, S. M., Bae, S. C., Schweizer, K. S., Granick, S.
2010; 104 (11)
- **Anomalous yet Brownian** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Wang, B., Anthony, S. M., Bae, S. C., Granick, S.
2009; 106 (36): 15160-15164
 - **Nanoparticle-induced surface reconstruction of phospholipid membranes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Wang, B., Zhang, L., Bae, S. C., Granick, S.
2008; 105 (47): 18171-18175
 - **Nanomedicine Approaches Against Parasitic Worm Infections.** *Advanced healthcare materials*
Li, P., Rios Coronado, P. E., Longstaff, X. R., Tarashansky, A. J., Wang, B.
2018; e1701494
 - **Biomimetic Virulomics for Capture and Identification of Cell-Type Specific Effector Proteins.** *ACS nano*
Lapek, J. D., Fang, R. H., Wei, X., Li, P., Wang, B., Zhang, L., Gonzalez, D. J.
2017; 11 (12): 11831-38
 - **Even Hard-Sphere Colloidal Suspensions Display Fickian Yet Non-Gaussian Diffusion** *ACS NANO*
Guan, J., Wang, B., Granick, S.
2014; 8 (4): 3331-3336
 - **Bursts of Active Transport in Living Cells** *PHYSICAL REVIEW LETTERS*
Wang, B., Kuo, J., Granick, S.
2013; 111 (20)
 - **Diagnosing Heterogeneous Dynamics in Single-Molecule/Particle Trajectories with Multiscale Wavelets** *ACS NANO*
Chen, K., Wang, B., Guan, J., Granick, S.
2013; 7 (10): 8634-8644
 - **Modular Stitching To Image Single-Molecule DNA Transport** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Guan, J., Wang, B., Bae, S. C., Granick, S.
2013; 135 (16): 6006-6009
 - **Automated Single-Molecule Imaging To Track DNA Shape** *LANGMUIR*
Guan, J., Wang, B., Granick, S.
2011; 27 (10): 6149-6154
 - **Single-Molecule Methods in Polymer Science** *JOURNAL OF POLYMER SCIENCE PART B-POLYMER PHYSICS*
Granick, S., Bae, S. C., Wang, B., Kumar, S., Guan, J., Yu, C., Chen, K., Kuo, J.
2010; 48 (24): 2542-2543
 - **The influence of polycaprolactone coating on the internalization and cytotoxicity of gold nanoparticles** *NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE*
Mao, Z., Wang, B., Ma, L., Gao, C., Shen, J.
2007; 3 (3): 215-223
 - **Rings of hydrogel fabricated by a micro-transfer technique** *MACROMOLECULAR RAPID COMMUNICATIONS*
Wang, B., Hong, Y., Feng, J., Gong, Y., Gao, C.
2007; 28 (5): 567-571
 - **Stepwise interfacial self-assembly of nanoparticles via specific DNA pairing** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*
Wang, B., Wang, M., Zhang, H., Sobal, N. S., Tong, W., Gao, C., Wang, Y., Giersig, M., Wang, D., Moehwald, H.
2007; 9 (48): 6313-6318
 - **Chitosan-mediated synthesis of gold nanoparticles on patterned poly(dimethylsiloxane) surfaces** *BIOMACROMOLECULES*
Wang, B., Chen, K., Jiang, S., Reincke, F., Tong, W. J., Wang, D. Y., Gao, C. Y.
2006; 7 (4): 1203-1209
-

- **Compression-inhibited pore formation of polyelectrolyte multilayers containing weak polyanions: A scanning force microscopy study** *CHEMPHYSICHEM*
Wang, B., Liu, L. L., Ke, C., Chen, L., Feng, J., Gao, C. Y.
2006; 7 (3): 590-596
- **Biologically driven assembly of polyelectrolyte microcapsule patterns to fabricate microreactor arrays** *ANGEWANDTE CHEMIE-INTERNATIONAL EDITION*
Wang, B., Zhao, Q. H., Wang, F., Gao, C. Y.
2006; 45 (10): 1560-1563
- **Loading and release behaviors of compressed polyelectrolyte multilayers for small dye molecules** *JOURNAL OF PHYSICAL CHEMISTRY B*
Wang, B., Gao, C. Y., Liu, L. L.
2005; 109 (11): 4887-4892
- **Physical-co-chemical multicomponent micropatterns on polymer surfaces by thermal pressing method** *CHEMISTRY OF MATERIALS*
Wang, B., Feng, J., Gao, C. Y.
2004; 16 (24): 4859-?
- **Irreversible compression of polyelectrolyte multilayers** *MACROMOLECULES*
Gao, C. Y., Wang, B., Feng, J., Shen, J. C.
2004; 37 (24): 8836-8839
- **Selective adsorption of microcapsules on patterned polyelectrolyte multilayers** *ADVANCED MATERIALS*
Feng, J., Wang, B., Gao, C. Y., Shen, J. C.
2004; 16 (21): 1940-?