

Cheemeng Tan

Associate Professor
Department of Biomedical Engineering
University of California Davis
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EDUCATION

- 2010 Ph.D. Biomedical Engineering (Advisor: Prof. Lingchong You)
Duke University
- 2002 M.S. High Performance Computation for Engineered Systems
Singapore-MIT Alliance
- 2001 B.Eng. Engineering (First class honors)
National University of Singapore

APPOINTMENTS

- 2019-now Associate Professor, Department of Biomedical Engineering, University of California Davis
- 2013-2019 Assistant Professor, Department of Biomedical Engineering, University of California Davis
- 2014-now Member/Trainer, University of California Davis
Chemical Engineering
Biomedical Engineering
Biophysics
Integrative Genetics and Genomics
Biochemistry, Molecular, Cellular and Developmental Biology
Biomolecular Biotechnology Training Grant
T32 Training Program in Molecular and Cellular Biology
- 2010-2013 Lane Postdoctoral Fellow, Lane Center for Computational Biology, Carnegie Mellon University (Advisors: Prof. Philip LeDuc and Prof. Russell Schwartz)
- 2002-2004 Research Associate, Bioinformatics Institute, Singapore.
- 2002 Research Intern, Temasek Laboratories, Singapore
- 2000 Engineer Intern, Sinotech Engineering Consultants Inc., Taiwan.

AWARDS

- 2021 UC Davis Chancellor's Fellow
- 2018 Cellular and Molecular Bioengineering Young Innovator
- 2018 Scialog Fellow, Research Corporation and the Gordon and Betty Moore Foundation
- 2015-2018 Young Investigator Grant, Human Frontier Science Program (10 out of 1011 applications)
- 2012-2017 Branco Weiss Fellowship, Society in Science, ETH Zurich (10 out of >400 applications)
- 2011, 2009 q-bio Travel Awards
- 2010-2013 Lane Postdoctoral Fellowship
- 2009 Medtronic Fellowship
- 2008 BioBricks Foundation Synthetic Biology 4.0 Travel Award
- 2001-2002 Singapore-MIT Alliance Graduate Fellowship
- 1997-2001 Kuok Foundation Award, Malaysia

PUBLICATIONS (H-INDEX = 22)

- 2021 1. Analysis of the innovation trend in cell-free synthetic biology. Conary Meyer, Yusuke Nakamura, Blake J. Rasor, Ashty S. Karim, Michael C. Jewett, C. Tan. *Life* 11 (6), 551
2. Building protein networks in synthetic systems from the bottom-up. Jiyoung Shim#, Chuqing Zhou#, Ting Gong#, Dasha Aleksandra Iserlis, Hamad Abdullah Linjawi, Matthew Wong, Tingrui Pan*, C. Tan. *Biotechnology Advances*, 107753
- 2020 3. Holistic engineering of cell-free systems through proteome-reprogramming synthetic circuits. C. Meyer, L. Contreras-Llano, Y. Liu, R. Pasula, S. Lim, M. Longo, C. Tan. *Nature Communications*, 11 (1), 1-10, 2020.
4. Orthogonal tuning of gene expression noise using CRISPR-Cas. F. Wu, J. Shim, T. Gong, and C. Tan. *Nucleic Acids Research*, 48 (13), e76, 2020.
5. Stochastic ordering of complexoform protein assembly by genetic circuits. M. Jensen, E. Morris, H. Tran, M. Nash, C. Tan. *PLoS Comp. Bio.*, 16 (6), e1007997, 2020
- 2019 6. Microfluidic cap-to-dispense (μ CD): a universal microfluidic-robotic interface for automated pipette-free high-precision liquid handling. J. Wang, K. Deng, C. Zhou, Z. Fang, C. Meyer, K. Deshpande, Z. Li, X. Mi, Q. Luo, B. Hammock, C. Tan*, Y. Chen*, T. Pan*. *Lab on a Chip*, 2019. (*Co-corresponding)
7. A biosensing soft robot: Autonomous parsing of chemical signals through integrated organic and inorganic interfaces. K. Justus, T. Hellebrekers, D. Lewis, A. Wood, C. Ingham, C. Majidi, P. LeDuc, and C. Tan. *Science Robotics*, 4 (31), eaax0765, 2019
Highlighted by Digital Journal, ZDNet, Business Standard, SlashGear, The Peninsular Qatar, New York Post, BGR, Cosmos, hackster.io, Irish Times, New Atlas, TechCrunch
8. Dead bacterial absorption of an antimicrobial peptide underlies collective tolerance. F. Wu and C. Tan. *Journal of Royal Society Interface*, 16(151), 2019.
- 2018 9. Engineered stochastic adhesion between microbes as a protection mechanism against environmental stress. D. Lewis, R. Vanella, M. Nash, and C. Tan. *Cellular and Molecular Bioengineering*, 10.1007/s12195-018-0, 2018
10. Minimizing context-dependency of gene networks using artificial cells. Y. Ding, L. Contreras-Llano, E. Morris, M. Mao, and C. Tan. *ACS Applied Materials and Interfaces*, 10.1021/acsami.8b100, 2018
11. High-throughput screening of biomolecules using cell-free gene expression systems. L. Contreras-Llano and C. Tan. *Oxford University Press - Synthetic Biology*, 3 (1), ysy012, 2018
12. DD Lewis, C Tan. Aroma-triggered pain relief. *Nature Biomedical Engineering* 2 (2), 58, 2018.
Invited News and Views
13. F. Villarreal, M. Chavez, Y. Ding, J. Fan, T. Pan, and C. Tan. Synthetic microbial consortia enable rapid assembly of multi-protein complexes. *Nature Chemical Biology*, 14(1), 29, 2018.
14. Dotette: Programmable, high-precision, plug-and-play droplet pipetting. J. Fan, Y. Men, K. Tseng, Y. Ding, Y. Ding, F. Villarreal, C. Tan, B. Li, and T. Pan *AIP Biomicrofluidics*, 12, 034107, 2018.
15. Engineering approaches of smart, bio-inspired vesicles for biomedical applications. T. Abraham, M. Mao, and C. Tan. *Physical Biology*, 15 (6), 2018.
- 2017 16. S. McCutcheon, K. Chiu, D. Lewis, and C. Tan. CRISPR-Cas expands dynamic range of gene expression from T7RNAP promoters, *Biotechnology Journal*, published online, 2017.
Selected as inside cover.

17. D. Lewis, M. Chavez, K. Chiu, and C. Tan. Reconfigurable analog signal processing in living cells. *ACS Synthetic Biology*, published online, 2017.
Highlighted by Cell Systems.
18. C. Tan. What Is the Role of Circuit Design in the Advancement of Synthetic Biology? Part 3, *Cell Systems*, 4 (6), 579–580, 2017.
Invited opinion piece
19. J. Fan, F. Villarreal, B. Weyers, Y. Ding, K. Tseng, J. Li, B. Li*, C. Tan*, and T. Pan*. Multi-dimensional studies of synthetic genetic promoters enabled by microfluidic impact printing. *Lab-on-a-chip*, 17, 2198-2207, 2017. (*Co-corresponding)
20. C. Tan. Special collection of synthetic biology, aiming for quantitative control of cellular systems. *Quantitative Biology*, 1-2, 2017.
Served as the guest editor of the special issue
- 2016 21. F. Villarreal and C. Tan. Cell-free systems in the new age of synthetic biology. *Frontier Chem. Sci. Eng.*, DOI 10.1007/s11705-017-1610-x, 2016.
22. M. Chavez, J. Ho, and C. Tan. Reproducibility of high-throughput plate-reader experiments in synthetic biology. *ACS Synthetic Biology*, DOI: 10.1021/acssynbio.6b00198, 2016.
23. F. Wu, C. Ma, and C. Tan. Network motifs modulate druggability of cellular targets. *Scientific Reports*, 6: 36626, 2016.
24. E. Morris, M. Chavez, and C. Tan. Dynamic Biomaterials: Toward Engineering Autonomous Feedback. *Current Opinion in Biotechnology*, 39, 97-104, 2016.
- 2015 25. R. Steward, C. Tan, C-M Cheng, and P. LeDuc. Cellular force signal integration through vector logic gates. *Journal of Biomechanics*, 48 (4), 613-620, 2015.
- 2014 26. D. Lewis, F. Villarreal, F. Wu, and C. Tan. Synthetic biology outside the cell: linking computational tools to cell-free systems. *Frontiers in Bioengineering and Biotechnology*, 2, 2014.
27. Y. Ding, F. Wu, and C. Tan. Synthetic biology: the bridge between artificial and natural cells. *Life*, 4 (4), 1092-1116, 2014.
28. C. Tan, R. Smith, M-C. Tsai, R. Schwartz, and L. You. Phenotypic signatures arising from unbalanced bacterial growth. *PLoS Comp. Bio.*, 10 (8), e1003751, 2014.
29. F. Wu and C. Tan. The engineering of artificial cellular nanosystems using synthetic biology approaches. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, 6 (4), 369-383, 2014.
30. R. Smith, C. Tan, K. Riccione, A. Pai, H. Song, and L. You. Programmed Allee effect in bacteria causes a tradeoff between population spread and survival. *PNAS*, 111 (5), 1969-1974, 2014.
Selected for Faculty Prime 1000.
- 2013 31. C. Tan, S. Saurabh, M. Bruchez, R. Schwartz, and P. LeDuc. Shaping gene expression in artificial cellular systems by cell-inspired molecular crowding. *Nature Nanotechnology*, 8 (8), 602-608, 2013.
Highlighted in cover article and "News and Views": Gene in a crowd, Nature Nanotechnology, 2013.
- 2004 32. C. Tan*, R. Smith*, J. Srimani, K. Riccione, S. Prasada, M. Kuehn, and L. You. The to inoculum effect and band-pass bacterial response to periodic antibiotic treatment. 2012 *Molecular Systems Biology*, 8:617, 2012. (*Equal contribution)
Highlighted in "Editors' Choice": Microbiology - Hit 'Em Quick, Hit 'Em Strong, Science, 338, 6104, 2012.

33. C. Tan, S. Lo, P. LeDuc, and CM. Cheng. Frontiers of optofluidics in synthetic biology. *Lab on a Chip*, 12(19), 3654-65, 2012.
Highlighted in "Editorial": Themed issue: Optofluidics, Lab on a Chip, 12, 3539–3539, 2012.
34. G. H. Zan, C. Tan, M. Deserno, F. Lanni, and M. Lösche. Fusion of giant unilamellar vesicles with planar hydrophobic surfaces: A fluorescence microscopy study. *Soft Matter*, 8 (42), 10877-10886, 2012.
35. M. Hallen, B. Li, Y. Tanouchi, C. Tan, M. West, and L. You. Computation of Steady-State Probability Distributions in Stochastic Models of Cellular Networks. *PLoS Comp. Bio.*, 7 (10), 2011.
36. G. Yao, C. Tan, M. West, J. R. Nevins, and L. You. Origin of bistability underlying mammalian cell cycle entry. *Molecular Systems Biology*, 7:485, 2011.
37. H. Song, S. Payne, C. Tan, and L. You. Programming microbial population dynamics by engineered cell–cell communication. *Biotechnology Journal*, 6 (7), 837-849, 2011.
38. C. Tan, P. Marguet, and L. You. Emergent bistability by a growth-modulating positive feedback circuit. *Nature Chemical Biology*, 5, 842-848, 2009.
Highlighted in "News and Views": Slow growth leads to a switch, Nature Chemical Biology, 5, 784-785, 2009.
39. Q. Wang, J. Niemi, C. Tan, L. You and M. West. Image segmentation and dynamic lineage analysis in single-cell fluorescent microscopy. *Cytometry A*, 77(1), 101-10, 2009.
40. C. Tan, F. Reza, and L. You. Noise-limited frequency signal transmission in gene circuits. *Biophysical Journal*, 93, 3753-3761, 2007.
41. C. Tan, H. Song, J. Niemi, and L. You. A synthetic biology challenge: making cells compute. *Molecular BioSystem*, 3, 343-353, 2007.
Highlighted in "Perspective": Living computers. Chemical Biology, 2007.
42. P. Marguet, F. Balagadde, C. Tan, and L. You. Biology by design: reduction and synthesis of cellular components and behaviour. *J. Royal Society Interface*, 4(15), 607-623, 2007.
43. K.-H. Chiam*, C. Tan*, V. Bhargava, and G. Rajagopal. Hybrid simulations of stochastic reaction-diffusion processes for modeling intracellular signaling pathways. *Phys. Rev. E*, 74, 051910, 2006 (*Equal contribution).
44. P. Dhar, C. Tan, S. Somani, Y. Li, K. Sakharkar, A. Krishnan, A. Ridwan, M. Chitre, and H. Zhu. Grid Cellware: The first Grid-enabled tool for modeling and simulating cellular processes. *Bioinformatics*, 21(7), 1284-1287, 2005.
45. C. Tan, S. Somani, and P. Dhar. Modeling and simulation of biological systems with stochasticity. *In-Silico Biology*, 4, 0024, 2004.
46. P. Dhar, C. Tan, S. Somani, Y. Li, A. Sairam, M. Chitre, H. Zhu, and K. Sakharkar. Cellware: a multi-algorithmic software for computational systems biology. *Bioinformatics*, 20(8), 1319-1321, 2004.

Conference Papers (Refereed)

47. T. Ray, H. Tsai, and C. Tan. Effects of Solver Fidelity on a Parallel Search Algorithm's Performance for Airfoil Shape Optimization Problems. 9th AIAA/ISSMO Symposium on Multidisciplinary Analysis and Optimization Conference, Atlanta, Georgia, 2002.
48. C. Tan, T. Ray, and H. Tsai. Effects of Adaptive Search Space Operator on Performance of SWARM Algorithm for Airfoil Design Optimization. 41st Aerospace Sciences Meeting and Exhibit, Reno, Nevada, 2003
49. C. Tan, T. Ray, and H. Tsai. A Comparative Analysis of Evolutionary Algorithm and Swarm Algorithm for Airfoil Design Problems. 41st Aerospace Sciences Meeting and Exhibit, Reno, Nevada, 2003

Book Chapters

50. T. Lee, C. Tan, D. Tu, and L. You. Systems Bioinformatics: An Engineering Case-Based Approach. G. Alterovitz (Editor), M. F. Ramoni. Artech House Publishers, 2007.

Patents and Patent Applications

51. International patent filed. International application number: PCT/US18/17102. Use of microbial consortia in the production of multi-protein complexes.
52. Patent filed. USPTO Serial No: 62/868,790. Method for the preparation of a bacterial cell lysate for in vitro protein expression using a microbial consortium overexpressing and adapting to translation machinery

INVITED TALKS

- | | |
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| 05/2021 | Meeting speaker, UC Davis Cancer Center, Biotechnology Program |
| 01/2021 | Meeting speaker, UC Davis Breast Cancer Working group |
| 11/2020 | Seminar speaker, Society in Science of ETH, Zurich, Switzerland |
| 02/2020 | Seminar Speaker, Academia Sinica, Taipei, Taiwan |
| 09/2019 | 10 th year Anniversary Event Speaker, Carnegie Mellon University, Department of Computational Biology |
| 09/2019 | Seminar Speaker, Carnegie Mellon University, Department of Biology |
| 06/2019 | Speaker, UCSF, Symposium on gene-expression noise |
| 05/2019 | Speaker, UC Davis – Nanyang Technological University Summit |
| 11/2018 | Symposium Speaker, Branco-Weiss Fellowship Annual Meeting |
| 01/2018 | Seminar Speaker, Wyss Institute at Harvard University |
| 01/2018 | Seminar Speaker, MIT |
| 09/2017 | Seminar Speaker, University of Minnesota Twin Cities |
| 03/2017 | International Biological Engineering Meeting, New Delhi, India |
| 12/2016 | Cold Spring Harbor Asia Synthetic Biology meeting, Shanghai, China |
| 08/2016 | Seminar Speaker, Lawrence Livermore National Lab |
| 07/2016 | Summer Course in Synthetic Biology, National Chung-Hsing University, Taiwan |
| 07/2016 | Seminar Speaker, Academia Sinica, Taiwan |
| 06/2016 | Late-breaking Talk, 2016 Biointerface Science - Gordon Research Conference, Switzerland |
| 02/2016 | Keynote Presentation, NanoEngineering for Medicine and Biology Conference (ASME), Houston |
| 02/2015 | Workshop Proposer and Speaker, Annual Biophysical Society Meeting, Baltimore |
| 01/2015 | Conference Speaker, PepTalk 2015, San Diego |
| 07/2014 | Workshop Speaker, EITA Conference, MIT |
| 06/2014 | Conference Speaker, Peking University, China |
| 06/2014 | Seminar Speaker, Ludwig-Maximilians Universitat Munchen, Germany |
| 05/2014 | Seminar Speaker, Medical Microbiology and Immunology, UC Davis |
| 03/2014 | Seminar Speaker, BME and CHMS recruitment events, UC Davis |
| 02/2014 | Seminar Speaker, Chemical Engineering and Materials Science, UC Davis |
| 10/2013 | Seminar Speaker, Biomedical Engineering, UC Davis |
| 05/2013 | Seminar Speaker, Purdue University |
| 05/2013 | Seminar Speaker, University of Warwick, UK |
| 05/2013 | Seminar Speaker, North Carolina State University |
| 03/2013 | Seminar Speaker, University of California Davis |
| 03/2013 | Seminar Speaker, University of California Berkeley |
| 02/2013 | Seminar Speaker, University of California Irvine |

02/2013	Seminar Speaker, Arizona State University
01/2013	Seminar Speaker, Stony Brook University
01/2013	Seminar Speaker, Texas A&M University College Station

SERVICES

Outside UC Davis

2021	NIH grant review panel
2021	Reviewer, RCSA grant
2020	NSF grant review panel
2019	NASA grant review panel
2017 – now	Reviewer, NDSEG Fellowship
2017	Consultant, Hitachi R&D
2017 – 2019	NIH, Early Career Reviewer
2017	Reviewer, The Leverhulme Trust (UK)
2017	Guest editor, Special Issue on “Synthetic Biology” in Quantitative Biology
2015, 2016	Reviewer, NSF
2015	Platform Session Chair, BMES Annual Meeting, Tampa
2015	Reviewer for ETH Postdoctoral Fellowship, ETH Zurich, Switzerland
2015	Reviewer for David Philips Fellowship, BBSRC, UK
2015	Workshop Chair, Biophysical Society Annual Meeting, Baltimore
2014-2018	Undergraduate Affairs Committee, BME, UC Davis
2014	Poster & Platform Session Chair, BMES Annual Meeting, Texas

Within UC Davis

2020-2021	Co-Chair, UC Systemwide Bioengineering Symposium
2020-2021	Member, IGG admission committee
2020-2021	Member, qBio Faculty Search Committee
2020-2021	Member, BME Faculty Search Committee
2021	Chair, BME Department, Faculty Hiring Planning Committee
2020-now	Chair, COE, Student Recruitment, Development and Welfare
2020-now	Member, BME Department, Awards Committee
2019-now	Graduate advisor, BME Graduate Group
2014-now	Member, BME Department, Undergraduate Affairs Committee
2019-2021	Member, BME Department, UC-wide Symposium Planning Committee
2017-2021	Member, BME Department, Academic Merits and Promotion Committee
2016-2019	Member, BME Graduate Group, Admission Committee
2017	Chair, BME Department, Faculty Hiring Planning Committee
2016, 2019	Reviewer, UC Davis, Limited Submission
2015, 2016	Session moderator, UC Davis Undergraduate Research Conference

TEACHING

University of California Davis (evaluation score – higher is better)

Spring 2021	Lecturer, BIM167 Biofluid Mechanics (4.3/5)
Fall 2020	Lecturer, BIM264 Systems and Synthetic Eng. Of Cells (4.2/5)
Spring 2020	Lecturer, BIM167 Biofluid Mechanics (2.8/5)
Fall 2019	Lecturer, BIM161 Molecular Biotechnology (eval=4.5/5)
Spring 2019	Lecturer, BIM167 Biofluid Mechanics (eval=4.5/5)
Fall 2018	Lecturer, BIM264 Systems and Synthetic Eng. Of Cells (eval=4.5/5)
Spring 2018	Lecturer, BIM167 Biofluid Mechanics (eval=4.6/5)
Winter 2018	Lecturer, BIM106 Biotransport Phenomenon (eval = 4.0/5)
Fall 2017	Lecturer, BIM161 Molecular Biotechnology (eval = 4.8/5)

Spring 2017 Lecturer, BIM167 Biofluid Mechanics (eval=4.7/5)
 Winter 2017 Lecturer, BIM106 Biotransport Phenomenon (eval=4.4/5)
 Spring 2016 Lecturer, BIM167 Biofluid Mechanics (eval=4.7/5)
 Winter 2016 Lecturer, BIM106 Biotransport Phenomenon (eval=4.5/5)
 Fall 2015 Lecturer, BIM161 Molecular Biotechnology (eval=4.3/5)
 Spring 2015 Lecturer, BIM167 Biofluid Mechanics (eval=4.5/5)
 Winter 2015 Lecturer, BIM289A Systems & Synthetic Eng. of Cells
 Spring 2014 Lecturer, BIM167 Biofluid Mechanics (eval=4.89/5)
 Spring 2014 Guest lecturer, BIM209 Scientific Ethics and Integrity
 Fall 2014 Guest lecturer, BIM01 Introduction to Biomedical Engineering

Carnegie Mellon University

Spring 2013 Guest lecturer, Applied Cell and Molecular Biology
 Fall 2012 Guest lecturer, Computing and biology
 Fall 2011 Guest lecturer, Biological modeling and simulation

Duke University

Fall 2006 Teaching assistant, Modeling cellular and molecular systems
 Fall 2007 Teaching assistant, Bio-transport phenomena

ADVISORY AND SUPERVISORY RESPONSIBILITIES

University of California Davis

Postdoc Fernando Villarreal, 2014-2017
 Yunfeng Ding, 2014-2017
 Eliza Morris, 2015-2016
 Yao Liu, 2017-2019
 Ting Gong, 2019-now
 Jiyoung Shim, 2019-now

Graduate Students Fan Wu, Ph.D. Biomedical Engineering, 2013-2019
 Daniel Lewis, Ph.D. Integrated Genetics and Genomics, 2013-2019
 Yuchen Yao, M.S. Chemical Engineering, 2017-2018
 Henry Mai, MS. Biomedical Engineering, 2021
 Luis Contreras-Llano, Ph.D. Biochemistry, Molecular, Cellular and Developmental Biology, 2017-now
 Conary Meyer, Ph.D. Biomedical Engineering, 2018-now
 Chuqing Zhou, Ph.D. Chemical Engineering, 2018-now
 Tanner Henson, Ph.D. Biomedical Engineering, 2021-now
 Jung Hoo Kwon, Ph.D. Biomedical Engineering, 2021-now

Undergraduate Students Cong Ma, Summer 2014
 Jonathan Ho, 2014-2015
 Meidi Wang, Summer 2015
 Mi Hwangbo, 2015-2016
 Ying Zhang, Summer 2016
 Michael Chavez, 2014-2016
 Alexander Duvenceck, 2015-2017
 Kwan-Lun Chiu, 2015-2017
 Sean McCutcheon, 2015-2017
 Michelle Mao, 2016-2018
 Tanishq Abraham, 2016-2018
 Christopher Vo, 2017-now
 Rachel Ibrahim, 2017-2019
 Jagveer Singh, 2018-2019

	Katelyn France, 2018-2020
	Hamad Linjawi, 2019-2020
	Matthew Wong, 2019-now
	Dasha Iserlis, 2019-2021
	Joakin Ejie, 2020-now
	Dhruva Adiga, 2021-now
Thesis Committee	Kyungjin Song, Ph.D. awarded
	Kyle Justus, Ph.D. awarded
	Andrew Yao, M.S. awarded
	Daniel Lewis, Ph.D. awarded
	Fan Wu, Ph.D. awarded
	Henry Mai, awarded
Qualifying Exam	Kyungjin Son, Biomedical Engineering, 2013
	Anh Miu, Biomedical Engineering, 2014
	Leif Anderson, Biomedical Engineering, 2015
	Xiao Kang, Biomedical Engineering, 2015
	Prema Karunanithi, Biochemistry, Molecular, Cell, and Developmental Biology, 2015
	Fan Wu, Biomedical Engineering, 2015
	Kyle Justus, Mechanical Engineering, 2015
	Jovana Veselinovic, Chemical Engineering, 2016
	Rasheed Sule, BMCDB 2018
	Pallavi Sambre, Chemical Engineering, 2020
	Hansol Ku, Chemical Engineering 2020
	Niraj Rajiv Punjya, BMCDB, 2021

COMPLETED AND CURRENT GRANTS

2019-2022	PI, NIH, NIBIB Trailblazer Award <i>Modeling heterogeneity of a cancer-signaling cascade using biomimetic cells</i>
2020-2021	PI (co-PI Aijun Wang), UC Davis, New Research Initiatives and Interdisciplinary Research <i>Prototyping bottom-up synthesis of exosomes using a synthetic biology approach</i>
2018-2022	PI, Branco Weiss Fellowship, Collaborative Grants Program <i>Engineering stochastic adhesion between probiotics for prolonged engraftment and function in the treatment of gut dysbiosis</i>
2018-2022	PI, NSF, Standard Grant <i>In situ sensing of chemicals inside three dimensional bacterial matrix using artificial cells</i>
2018-2022	Co-PI (PI: Marjorie Longo), NSF, Standard Grant <i>Functional Biomembrane Architectures in Mesoporous Gels</i>
2018-2019	PI, UC Davis, Research Core Facilities Program Pilot and Feasibility Program <i>Screening of genes and proteins that underlie heterogeneous response of bacteria towards antimicrobial peptides</i>
2015-2019	PI (Co-PI Nash), Human Frontier Science Program, Young Investigator Grant <i>Underlying dynamical coupling between gene expression and cellulosome assembly.</i>
2012-2017	PI, Branco-Weiss Fellowship, Society-in-Science <i>The engineering of antibacterial artificial cells using a synthetic biology approach</i>

JOURNAL/CONFERENCE ABSTRACT REVIEWER

Science Advances, Advanced Biosystems, PLoS Computational Biology, PLoS One, Journal of the Royal Society Interface, Biotechnology Journal, Micro and Nano Letters, Journal of Systems and Synthetic Biology, Journal of Cellular and Molecular Medicine, Nature Protocols, Nature Communications, Science, Scientific Reports, ACS Synthetic Biology, Nature Biomedical Engineering, Science Translational Medicine, Biophysical Journal, Journal of Visualized Experiments, Annual Meeting of Biomedical Engineering Society.