



Stanford Bio-X Interdisciplinary Initiatives
Seed Grants Symposium
Poster Session
February 21, 2018

POSTER #	TITLE	AUTHORS
1	The Role of Sarcomere Alignment in Connexin 43 Localization at Gap Junction	Soah Lee ¹ , Will Goodyer ^{1,4} , Sneha Venkatraman ¹ , Orlando Chirikian ¹ , Oscar Abilez ¹ , Timon Seeger ¹ , Haodi Wu ¹ , Joseph C. Wu ^{1,2,3,5} , Daniel Bernstein ^{1,4} , Sean M. Wu ^{1,2,5*} (*corresponding author) Stanford Cardiovascular Institute ¹ , Departments of Medicine (Division of Cardiovascular Medicine ²), Radiology ³ , and Pediatrics (Division of Cardiology ⁴), and Institute of Stem Cell Biology & Regenerative Medicine ⁵ , Stanford University
2	Hippocampal Pattern Separation Supports Reinforcement Learning	Ian C. Ballard ¹ , Anthony D. Wagner ² , Samuel M. McClure ³ Neurosciences Graduate Training Program ¹ and Department of Psychology ² , Stanford University; Department of Psychology ³ , Arizona State University
3	Graph Convolutional Networks Can Encode Three-Dimensional Genome Architecture in Deep Learning Models for Genomics	Peyton Greenisde ¹ , Anshul Kundaje ^{2,3} Biomedical Informatics Program ¹ and Departments of Genetics ² and Computer Science ³ , Stanford University
4	Dynamic Hyaluronan Hydrogels with Temporally Modulated High Injectability and Stability Using a Biocompatible Catalyst	Junzhe Lou ^{1,2} , Fang Liu ¹ , Chris Lindsay ² , Ovijit Chaudhuri ³ , Sarah Heilshorn ² , Yan Xia ^{1*} (*corresponding author) Departments of Chemistry ¹ , Materials Science & Engineering ² , and Mechanical Engineering ³ , Stanford University
5	Functional Regulatory Mechanism of Smooth Muscle Cell-Restricted LMOD1 Coronary Artery Disease Locus	Ting Wang ^{1*} , Vivek Nanda ^{2,3*} , Milos Pjanic ³ , Boxiang Liu ³ , Michael Snyder ¹ , Thomas Quertermous ³ , Nicholas J. Leeper ^{2,3} , Clint L. Miller ^{3,4} (*co-first authors) Departments of Genetics ¹ , Surgery ² , and Medicine ³ , Stanford University; Department of Public Health ⁴ , University of Virginia
6	T ₂ -Prepared Multidimensional Outer Volume Suppression for Coronary Imaging	David Y. Zeng ¹ , Mario O. Malavé ¹ , Corey A. Baron ^{1,4} , Adam B. Kerr ^{1,2} , Phillip C. Yang ³ , Bob S. Hu ^{1,4} , Dwight G. Nishimura ¹ Departments of Electrical Engineering ¹ and Medicine (Division of Cardiovascular Medicine ³) and ² Center for Cognitive & Neurobiological Imaging ² , Stanford University; Department of Medical Biophysics ⁴ , Western University, Canada; Department of Cardiology ⁵ , Palo Alto Medical Foundation
7	Hidden Complexity of Yeast Adaptation under Simple Evolutionary Conditions	Yuping Li ¹ , Sandeep Venkataram ¹ , Atish Agarwala ² , Barbara Dunn ³ , Dmitri A. Petrov ¹ , Gavin Sherlock ³ , Daniel S. Fisher ⁴ Departments of Biology ¹ , Physics ² , Genetics ³ , and Applied Physics ⁴ , Stanford University
8	Off-Target Behavior of Truncated Guides in Genome-Wide CRISPR/Cas9 Screens	Michael Wainberg ¹ , David W. Morgens ² , Evan A. Boyle ² , Oana Ursu ² , Carlos L. Araya ² , Kimberly Tsui ² , Michael S. Haney ² , Amy Li ² , Gaelen Hess ² , Kyuho Han ² , Michael P. Snyder ² , William J. Greenleaf ² , Anshul Kundaje ^{1,2} , Michael C. Bassik ^{2,3}

		Departments of Computer Science ¹ and Genetics ² and ChEM-H ³ , Stanford University
9	Improved Single Photon Time Resolution for Analog SiPMs with Front End Readout that Reduces Influence of Electronic Noise	Joshua W. Cates ¹ , Stefan Gundacker ⁵ , Etiennette Auffray ⁵ , Paul Lecoq ⁵ , Craig S. Levin ^{1,2,3,4} Departments of Radiology ¹ , Electrical Engineering ² , Bioengineering ³ , and Physics ⁴ , Stanford University; European Organization for Nuclear Research (CERN) ⁵
10	A Gut Commensal-Produced Metabolite Mediates Colonization Resistance to <i>Salmonella</i> Infection	Amanda Jacobson ¹ , Lilian Lam ¹ , Fiona Tamburini ² , Jared Honeycutt ¹ , Trung Pham ¹ , Will Van Treuren ¹ , Kali Pruss ¹ , Kyler Lugo ¹ , Donna M. Bouley ³ , Jose G. Vilches-Moure ³ , Justin L. Sonnenburg ¹ , Ami S. Bhatt ^{2,4} , Denise Monack ¹ Departments of Microbiology & Immunology ¹ , Genetics ² , Comparative Medicine ³ , Medicine ⁴ , Stanford University
11	Rerouting an Opioid Producing Metabolic Pathway for Papaverine Biosynthesis in Yeast	Aaron Cravens ¹ , James Payne ¹ , Colin Kim ¹ , Prashanth Srinivasan ¹ , Christina D. Smolke ¹ Department of Bioengineering ¹ , Stanford University
12	Learning Hierarchical Shape Segmentation and Labeling from Online Repositories	Li Yi ¹ , Leonidas J. Guibas ^{1,2} , Aaron Hertzmann ³ , Vladimir G. Kim ³ , Hao Su ² , Ersin Yumer ³ Departments of Electrical Engineering ¹ and Computer Science ² , Stanford University; Adobe Research ³
13	High-Resolution Lineage Mapping of Myogenesis <i>in vivo</i>	Ermelinda Porpiglia ¹ , Nikolay Samusik ² , Andrew Tri Van Ho ¹ , Benjamin D. Cosgrove ¹ , Thach Mai ¹ , Kara L. Davis ² , Astraea Jager ² , Garry P. Nolan ² , Sean C. Bendall ² , Wendy J. Fantl ² , Helen M. Blau ¹ Baxter Laboratory for Stem Cell Biology ¹ and Department of Microbiology & Immunology ² , Stanford University
14	Rapid Adaptation Reveals Structure in ‘Effectively Panmictic’ Populations	Alison Feder ¹ , Pleuni Pennings ² , Joachim Hermisson ^{3*} , Dmitri Petrov ^{1*} (*equal contribution) Department of Biology ¹ , Stanford University; Department of Biology ² , San Francisco State University; Faculty of Mathematics ³ , University of Vienna
15	Head Center of Rotation: How the Neck Constrains Head Motion Following External Loads	Calvin Kuo ¹ , Michael Fanton ¹ , Lyndia Wu ² , David B. Camarillo ² Departments of Mechanical Engineering ¹ and Bioengineering ² , Stanford University
16	Perceptual Accuracy of a Mixed-Reality System for MR-Guided Breast Surgical Planning in the Operating Room	Stephanie L. Perkins ^{1,2} , Michael A. Lin ³ , Subashini Srinivasan ¹ , Amanda J. Wheeler ⁴ , Brian A. Hargreaves ^{1,2,5} , Bruce L. Daniel ^{1,2} Departments of Radiology ¹ , Bioengineering ² , Mechanical Engineering ³ , Surgery ⁴ , and Electrical Engineering ⁵ , Stanford University
17	Supergrowth: Effect of Osmotic Oscillations on the Rate of Cell Growth and the Regulation of the Proteome	Ben Knapp ^{1,2} , Enrique Rojas ^{3,5} , Pascal Odermatt ² , Xiangwei He ⁶ , K.C. Huang ^{3,5} , Fred Chang ² Biophysics Program ¹ and Departments of Bioengineering ³ , Microbiology & Immunology ⁴ , and Biochemistry ⁵ , Stanford University; Department of Cell & Tissue Biology ² , University of California, San Francisco; Life Sciences Institute ⁶ , Zhejiang University
18	ComplementMe: Weakly-Supervised Component Suggestions for 3D Modeling	Minhyuk Sung ¹ , Hao Su ^{1,2} , Vladimir G. Kim ³ , Siddhartha Chaudhuri ⁴ , Leonidas Guibas ¹ Department of Computer Science ¹ , Stanford University; Department of Computer Science & Engineering ² , University of California, San Diego; Adobe Research ³ ; Department of Computer Science & Engineering ⁴ , IIT Bombay

19	Head Impact Rotation Is Governed by the Orientation of the Head and Neck	Michael Fanton ¹ , Calvin Kuo ¹ , Jake Sganga ² , David B. Camarillo ^{1,2} Departments of Mechanical Engineering ¹ and Bioengineering ² , Stanford University
20	Interplay Between Mechanotransduction and Force Generation Underlies Mitosis in Three Dimensional Microenvironments	Sungmin Nam ¹ , Vivek Gupta ¹ , Joanna Lee ¹ , Hong-pyo Lee ¹ , Ciara Davis ² , Ovijit Chaudhuri ¹ Department of Mechanical Engineering ¹ , Stanford University; Department of Mechanical Engineering ² , University of Maryland
21	A Lesion Size-Independent Radiomics Model for Identifying Cancer in Pulmonary Nodules Detected on CT	Shaimaa Bakr ¹ , Sarah Mattonen ² , Alberto Garcia ³ , Sanja Antic ⁴ , Yoganand Balagurunathan ⁵ , Thomas Atwater ⁴ , Heidi Chen ⁶ , Olivier Gevaert ⁷ , Ronald Walker ⁷ , Matthew Schabath ⁸ , Robert Gillies ⁵ , Pierre Massion ⁴ , Viswam Nair ² , Sandy Napel ² Departments of Electrical Engineering ¹ , Radiology ² , and Medicine ⁷ , Stanford University; Departments of Oncology & Medicine ³ , Cancer Imaging & Metabolism ³ , and Cancer Epidemiology ⁸ , Moffitt Cancer Center; Departments of Medicine ⁴ , Biostatistics ⁶ , and Radiology ⁷ , Vanderbilt University Medical Center
22	Mapping Epigenomic Regulatory Networks via Coupled Single Cell ATAC-seq and CRISPR Screens	Adam Rubin ¹ , Kevin Parker ¹ , Ansu Satpathy ¹ , Yanyan Qi ¹ , William Greenleaf ² , Howard Chang ¹ , Paul Khavari ¹ Program in Epithelial Biology ¹ and Department of Genetics ² , Stanford University
23	Facile Thermal and Optical Ignition of Silicon Nanoparticles and Micron Particles	Sidi Huang ¹ , Venkata Sharat Parimi ¹ , Sili Deng ¹ , Sri Lakshmi Lingamneni ¹ , Xiaolin Zheng ¹ Department of Mechanical Engineering ¹ , Stanford University
24	Captive Tiger Genomics: Applications for Conservation	Ellie E. Armstrong ¹ , Lucy W. Arnold ¹ , Dmitri Petrov ¹ , Elizabeth Hadly ^{1,2} Departments of Biology ¹ and Geological Sciences ² , Stanford University
25	The Value-Oriented Health Economic Environment: What Every Innovator Should Know	Véronique Peiffer ¹ , Cynthia A. Yock ¹ , Paul G. Yock ¹ , Jan Pietzsch ^{1,2} Byers Center for Biodesign ¹ , Stanford University; Wing Tech Inc. ² , Menlo Park
26	Mapping Cortical Dynamics in Stroke Using TMS-EEG	Camarin Rolle ¹ , Fiona Baumer ^{2,3} , Hersh Trivedi ⁴ , Ayesha Nadiadwala ⁴ , Karen Monuszko ⁴ , Kacey Berry ² , Maarten Lansberg ² , Marion Buckwalter ² , Amit Etkin ⁴ Neurosciences Program ¹ and Departments of Neurology & Neurological Sciences ² , Health Research & Policy ³ , and Psychiatry & Behavioral Sciences ⁴ , Stanford University
27	TGF- β Mediated Conversion of Postmitotic Adipocytes into Proliferating Myofibroblasts Requires Synergistic Repression of PPAR γ Expression and Increased Mechanical Stress	Ewa Bielczyk-Maczynska ¹ , Brooks Taylor ¹ , Steven Tan ² , Michael L. Zhao ¹ , Cayla Miller ² , Alexander R. Dunn ² , Mary N. Teruel ¹ Departments of Chemical & Systems Biology ¹ and Chemical Engineering ² , Stanford University
28	Phase-Shifted Signaling Inputs Selectively Control Differentiation Rates	Brooks Taylor ¹ , Joydeb Sinha ¹ , Mary N. Teruel ^{1,2} Departments of Chemical & Systems Biology ¹ and Bioengineering ² , Stanford University
29	A Core Component of Mature Adipocytes Enforces Cell Identity by Mediating Adipocyte Differentiation	Zahra Bahrami-Nejad ¹ , Stefan Tholen ¹ , Michael L. Zhao ¹ , Mary N. Teruel ^{1,2} Departments of Chemical & Systems Biology ¹ and Bioengineering ² , Stanford University
30	Dagger moths (<i>Lepidoptera: Macroheterocera: Noctuidae: Acronictinae</i>) Demonstrate the Variable Role of Wing Venation in the Evolution of the Nymphalid Groundplan	Sandra Schachat ^{1,2} , Paul Goldstein ³ Department of Geological Sciences ¹ , Stanford University; Department of Paleobiology ² and Systematic Entomology Laboratory, USDA-ARS ³ , National Museum of Natural History, Washington, D.C.

