Stanford Bio-X Interdisciplinary Initiatives Seed Grants Poster Session

August 28, 2025

Posters are alphabetized by the last name of the presenter.
Presenters' names are listed in bold.

Posters highlighted in red in the list below are presented by the Stanford Sapp Family CS Bio-X Undergraduate Summer Research Program participants. These boards will be marked with a ballon.

POSTER #	TITLE	AUTHORS
1	Construction of 22-NBD-Cholesterol-Loaded Lipoprotein Amphiphile Nanoparticles	**Uchenna Abba**[1], Claire Stewart[1], Sara Suchanti[1], Francesca Starvaggi[2], Naima G. Sharaf[1] Departments of Biology[1] and Chemistry[2], Stanford University
2	Exploring Brain-Body Physiologic Patterns in Parkinson's Disease	**Nisha Acharya**[1], Todd Coleman[1] Department of Bioengineering[1], Stanford University
3	Assessing the Dynamics of Visual Feedback Training for the Adaptation of Oculomotor Integration in Mice	**Aaron Adam**[1], Brian Angeles[1], Kellen Vu[1], Sriram Jayabal[1], Jennifer Raymond[1] Department of Neurobiology[1], Stanford University
4	Multiplexed Immune Profiling to Predict Severity of SARS-CoV-2 Infection and Future Onset of Long COVID	**Dwija Adamala**[1], Marlayna Harris[1], Pan Yue[2], Huilin Li[2], Mary Cushman[4,5], PJ Utz[1,6] Division of Immunology & Rheumatology[1] and Institute for Immunity, Transplantation & Infection[6], Stanford University; Department of Population Health[2], New York University; Departments of Medicine[4] and Pathology & Laboratory Medicine[5], University of Vermont
5	Cognitive Dysfunction with Relevance to Reproductive Milestones in Women with Multiple Sclerosis	**Zainab Al-Atya**[1], May Han[1] Department of Neurology & Neurological Sciences[1], Stanford University
6	Ultracentrifugation-Based Assay for Translocon Occupancy	**Basel Alkanjo**[1], Magda Wachalska[1], Ron R. Kopito[1] Department of Biology[1], Stanford University
7	*Ex-vivo* Evaluation of Photovoltaic Retinal Prostheses with Integrated Shunt Resistor	**Jeonghyun An**[1], Andrew Shin[2], Viktoryia Shautsova[3], Nathan Jensen[1], Davis Pham-Howard[5,6], Ludwig Galambos[1], Keith Mathieson[3], Theodore Kamins[1], Daniel Palanker[5,6]. Departments of Electrical Engineering[1], Materials Science & Engineering[2], Applied Physics[3], and Ophthalmology[6] and Hansen Experimental Physics Laboratory[5], Stanford University; Institute of Photonics, Department of Physics[4], University of Strathclyde
8	Developing an Optical Coherence Tomography (OCT) Vision Language Model for Grayscale OCT Images in Skin Virtual Biopsy	**Kyi Lei Aye**[1,2], Yonatan Winetraub[2] Community College Outreach Program[1] and Department of Structural Biology[2], Stanford University
9	Predictive Modeling of Avascular Necrosis in Pediatric Patients Treated with High-Dose Steroids	**Rod Azghadi**[1], Bryan Khoo[2], Amishi Jobanputra[2], Kevin Shea[2] Departments of Biology[1] and Pediatric Orthopedic Surgery[2], Stanford University

10	Life History Analysis Using Matrix Population Models with R: An Educational Module	**Aime Bakundukize**[1], Alexis A. Diaz[1], Shripad Tuljapurkar[1] Department of Biology[1], Stanford University
11	Engineering a Genetically Encoded Voltage Integrator	**Michael Balagula**[1], Shang-Jui Tsai[2], Alice Ting[2] Departments of Chemistry[1] and Genetics[2], Stanford University
12	Glaucoma-Associated Hypothalamic Atrophy Disrupts IGF-1 and Glial Inflammatory Regulation	**Ji Won Bang**[1,2], Justin Veerasami[2], Sang Won Bae[3], Gadi Wollstein[4,5], Joel S. Schuman[4,5], Kevin C. Chan[1,2] Spencer Center for Vision Research, Byers Eye Institute, Department of Ophthalmology[1], Stanford University; Department of Ophthalmology[2], New York University; Department of Systems & Enterprises[3], Stevens Institute of Technology; Glaucoma Service & Vickie & Jack Farber Vision Research Center[4], Wills Eye Hospital; Sidney Kimmel Medical College of Thomas Jefferson University[5]
13	Assessing the Performance of an Adult-Trained Whole-Body MRI Segmentation Model on Pediatric Lung Anatomy	Darlene Okpokpo[1], **Michael Barrow**[2], Heike Daldrup-Link[2,3] Morehouse School of Medicine[1]; Departments of Radiology (Division of Pediatric Radiology)[2] and Pediatrics (Hematology/Oncology)[3], Stanford University
14	Investigating the Influence of Athletic History on Postural Control Strategies During Jump Stabilization	**Sydney Barta**[1], Hannah Heigold[1], Scott Delp[1] Department of Bioengineering[1], Stanford University
15	Tracing Cell-Specific Signatures in the Circulating Transcriptome	**Romane Bauer**[1,2], James B. Zwierzynski[1,3], Petar Hristov[4], Ryan Flynn[5], Mira N. Moufarrej[1], Kristy Red-Horse[1,3,6,7] Department of Biology[1], Stanford Cardiovascular Institute[3], and Institute for Stem Cell Biology & Regenerative Medicine[6], Stanford University; University Medicine Zurich[2]; Departments of Chemistry & Chemical Biology[4] and Stem Cell & Regenerative Biology[5], Harvard University; Howard Hughes Medical Institute[7]
16	Low-Frequency Neural Oscillations from Intracortical Microelectrode Arrays Help Distinguish Attempted from Inner Speech	**Loran Baxter Mercado**[1,2], Benyamin Abramovich Krasa[3], Erin Kunz[4,5], Foram Kamdar[6], Donald Avansino[6,7], Nick Hahn[6], Seonghyun Yoon[4,8], Akansha Singh[6,9], Jaimie M. Henderson[5,6], Francis Willett[6,7] Symbolic Systems Program[1], Departments of Biomedical Data Science[2], Electrical Engineering[4], Neurosurgery[6], Mathematics[8], and Mechanical Engineering[9], Neuroscience Graduate Program[3], Wu Tsai Neurosciences Institute[5], Howard Hughes Medical Institute[7], Stanford University
17	IGK vs. EEK: A Novel CRISPR/Cas9-Based Strategy for B Cell Antibody Secretion	**Kaya Ben-Efraim**[2], Hana Y. Ghanim[1,2], Matthew H. Porteus[1,2] Institute for Stem Cell Biology & Regenerative Medicine[1] and Department of Pediatrics[2], Stanford University
18	Morphological Diversity of Glutamatergic Neurons in the Developing Mouse Enteric Nervous System	**Jacqueline L. Bendrick**[1,2], Ryan Hamnett[2,3], Julia A. Kaltschmidt[2,3]

		Neurosciences Interdepartmental Program[1], Wu Tsai Neurosciences Institute[2], and Department of Neurosurgery[3], Stanford University
19	Determining the Optimal Surgical Technique for Pediatric Posterior Meniscus Root Tear Repair	**Paul Bergeron**[1], Bryan Khoo[1], Katelin Isakoff[1], Alan Anaya Gallegos[1], Luis Fernando Viegas de Moraes Leme[1], Hubert Tuyishime[1], Iris Cong[1], Calvin Chan[1], Amishi Jobanputra[1], Nicole Pham[1], Molly Meadows[1], Philip Wilson[2], Matthew Schmitz[3], Charles Chan[1], Henry Ellis[2], Yi-Meng Yen[4], Marc Tompkins[5], Theodore Ganley[6], Kevin Shea[1] Department of Orthopaedic Surgery[1], Stanford University; Scottish Rite for Children Sports Medicine[2]; Rady Children's Hospital - San Diego[3]; Department of Orthopedics & Sports Medicine[4], Boston Children's Hospital; Department of Orthopedic Surgery[5], University of Minnesota Twin Cities; Division of Orthopaedics[6], Children's Hospital of Philadelphia
20	AlphaMissense Pathogenicity Prediction of Epidermolysis Bullosa Simplex Missense Variants in K5/14	**Maya Bhalla**[1], Yuri Ikeda[1], Edward Eid[1], **Estephannie Alvarez**[1], Jean Tang[1] Department of Dermatology[1], Stanford University
21	A Female-Specific Mitochondrial Stress Response Drives Resilience and Survival	**Sajad Bhat**[1], Menghan Li[1], Aarooran Durairaj[1], Otufa Noor[1], Xinnan Wang[1]* (*corresponding author) Department of Neurosurgery[1], Stanford University
22	Discovery of a Mischaracterized Compound that Selectively Targets Drug-Resistant Cancers	**Debanjan Bhattacharjee**[1], Kaitlin Long[1], Luciano Romero[1], Jason M. Sheltzer[1]* (*corresponding author) Department of Radiation Oncology[1], Stanford University
23	Using Multiplexed Force Spectroscopy to Quantify Protein Interactions under Force	**Yujia Bian**[1], Matt Dejong[1], Polly Fordyce[3,4,5,6], Alexander Dunn[1,2] Departments of Chemical Engineering[1], Bioengineering[3], and Genetics[4], Cardiovascular Institute[2], and Sarafan ChEM-H[5], Stanford University; Chan Zuckerberg BioHub[6]
24	Sex Differences in Neuroimaging and Alzheimer's Disease Biomarkers in Adults with Down Syndrome	**Grace Bishay**[1], Jennifer Bruno[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
25	The Microscopic Anatomy of the Pacific Bluefin Tuna (*Thunnus orientalis*)	**John Anthony Blaha**[1], José Vilches-Moure[1] Department of Comparative Medicine[1], Stanford University
26	Speaking of Memory: LLM-Scored Recall Reveals Event Boundary Effects in Aging & Alzheimer's Disease	**Carmen Boyan**[1,2], Subbulakshmi S.[2], Channing Brook[1,2], Anthony Wagner[2,3] Departments of Biology[1] and Psychology[2] and Wu Tsai Neurosciences Institute[3], Stanford University
27	Drug-Inducible Retinal Organoid Model of Photoreceptor Dystrophy	**Allyssa Bradley**[1,2,3], Hyejung Min[1,2,3], Soyeon Park[1,2,3], Will Temme[1,2,3], Soyoung Park[1,2,3], Eun-Jin Lee[1,2,3], Jonathan H. Lin[1,2,3] Departments of Pathology[1] and Ophthalmology[2], Stanford University; VA Palo Alto Health Care System[3]

28	Comprehensive Intraoperative Imaging of Surgical Margins with AI-Driven Open-Top Light-Sheet Microscopy	**David Brenes**[1], Qinghua Han[1], Rui Wang[1], Rauf Kareem[1], Helena Son[2], Michael C. Topf[3], Eben L. Rosenthal[3], Emily Marchiano[4], Emily Palmquist[5], Cody Cooper[6], Carl Storey[6], Synclair Chendranaga[6], Nicholas Reeder[6], Faisal Mahmood[7], Sara H. Javid[5], Suzanne M. Dintzis[8], Jonathan T.C. Liu[1,2,8] Department of Pathology[1], Stanford University; Departments of Mechanical Engineering[2], Otolaryngology - Head & Neck Surgery[4], Surgery[5], and Laboratory Medicine & Pathology[8], University of Washington; Department of Otolaryngology - Head & Neck Surgery[3], Vanderbilt University; Alpenglow Biosciences, Inc.[6]; Department of Pathology[7], Brigham & Women's Hospital, Harvard Medical School
29	Opposing Roles for Type I Interferon in Metastasis and Immunotherapy	**Cort B. Breuer**[1,2], Marcos Labrado[1], Grayson Rodriguez[1,3], K. Christopher Garcia[3], Nathan Reticker-Flynn[2] Immunology Program[1] and Departments of Otolaryngology - Head & Neck Surgery[2] and Molecular & Cellular Physiology[3], Stanford University
30	Spin-Correlated Radical Pair Dynamics Controlled by Magnetic Resonance in a Transgenic Animal	**Shaun C. Burd**[1]*, **Nahal Bagheri**[2,3]*, Maria Ingaramo[4], Alec F. Condon[5], Samsuzzoha Mondal[6,7], Dara P. Dowlatshahi[6,7], Jacob A. Summers[6], Srijit Mukherjee[2], Andrew G. York[4], Soichi Wakatsuki[6,7], Steven G. Boxer[2], Mark Kasevich[1] (*equal contribution) Departments of Physics[1], Chemistry[2], Electrical Engineering[3], Biology[5], and Structural Biology[6], Stanford University; Calico Life Sciences[4]; SLAC National Accelerator Laboratory[7]
31	Chromatin Architecture Regulates Plasma Membrane Tension and Cell Integrity Independently of Gene Expression	**Aidan T. Cabral**[1,2], **Manasi Sawant**[1,2], Minwoo Kang[1,2], Hawa R Thiam[1,2,3,4,5] Departments of Bioengineering[1] and Microbiology & Immunology[2] and Sarafan ChEM-H Institute[3], Stanford University; Chan Zuckerberg Biohub[4], San Francisco; Esther Ehrman Lazard Faculty Scholar[5]
32	Predicting Infarct Location and Stroke Severity from Symptoms Using Language Models: Towards the Next Generation of Vision Models in Acute Stroke	**Pere Canals**[1,2,3,4], Henk Van Voorst[1,3,4], David Gonzalez[2], Marc Rodrigo-Gisbert[2], Jordi Mayol[2], Maarten G. Lansberg[3,4], Gregory W. Albers[3,4], Marc Ribo[2], Jeremy Heit[1,3,4] Departments of Radiology[1] Neurology & Neurological Sciences[3] and Stanford Stroke Center[4], Stanford University; Stroke Unit, Neurology[2], Hospital Vall d'Hebron
33	Exploring Lingual Junctional Epithelium in Rodent Models to Advance Regenerative Soft Tissue Applications	**Ashley Carter**[1], Eunice Jeong[1], Fabiana Aellos[1], Bo Liu[1], Jill Helms[1] Department of Plastic & Reconstructive Surgery[1], Stanford University
34	Adipocyte Mediated OA Inflammation in a Joint-on-Chip Model	**Mehmet Sertac Cekuc**[1], Yasemin Sude Ergul[1], Patrick Blankenberg[1], Monica Thukkaram[1], Roger Wise[2], Simon Kwoon-Ho Chow[1], Hang Lin[3], Bruce Bunnell[4], Qi Gao[1], Stuart B. Goodman[1,5] Departments of Orthopaedic Surgery[1] and Bioengineering[5] and Additive Manufacturing & Prototyping Facility (AMPF)[2], Stanford University;

		Center for Cellular & Molecular Engineering, Department of Orthopaedic Surgery[3], University of Pittsburgh; Department of Microbiology, Immunology & Genetics[4], University of North Texas
35	Genetically Encoded Synthesis of Optoelectronic, Inorganic Nanomaterials in Mammalian Cells and Live Animals	**Stefano Cestellos-Blanco**[1,2], Kang Yang Loh[2,3], Spencer Zhao[1], Chandan Kadur[2], Karl Deisseroth[2,4,5]*, Zhenan Bao[1,3,6]* (*corresponding authors) Departments of Chemical Engineering[1], Bioengineering[2], Chemistry[3], Psychiatry & Behavioral Sciences[5], and Materials Science & Engineering[6] and Howard Hughes Medical Institute[4], Stanford University
36	Who Eats What? Demographic and Socioeconomic Drivers of Diet and Lifestyle in U.S. Women	**Chloe M. Chan**[1], Sally Lai[2], Caitlin R. Johnson[2], Michelle A. Caesar[2], Amandeep K. Grewal[3], Nathan Tran[2], John K. Chan[2], Daniel S. Kapp[4], Christopher Gardner[1] Stanford Prevention Research Center[1] and Department of Radiation Oncology[4], Stanford University; California Pacific Medical Center Research Institute[2]; Sutter Health[3]
37	Interpretable AI for Breast Cancer Computational Pathology	**Darren Chan**[1, 2], Brennan Simon[2], Clemens Weiss[2], Christina Curtis[3, 4, 5, 6] School of Engineering[1], Stanford Cancer Institute[2], and Departments of Medicine (Division of Oncology)[3], Genetics[4], and Biomedical Data Science[5], Stanford University; Chan Zuckerberg Biohub[6]
38	TriFlow	**Matthew Chan**[1], Bianca Lorraine Osterling[1], Ethan C. Darwin[1], Adam S. Wang[2,3], Marc E. Levenston[1,2] Departments of Mechanical Engineering[1], Radiology[2], and Electrical Engineering[3], Stanford University
39	Chemical Modulation of Miro1 Alleviates Cell-Type-Specific Vulnerabilities in Friedreich's Ataxia	**Sujyoti Chandra**[1], Chulhwan S. Kwak[1], Katarzyna P. Dzik[1], Giuseppe Barisano[1], Xinnan Wang[1] Department of Neurosurgery[1], Stanford University
40	Investigating the Behavior and Condensate-Based Engineering Strategy of HMP35 in Plant Heavy-Metal Response	**Qingyue Chang**[1], Xiaofeng Fang[2] Department of Plant Biology, Carnegie Institution for Science[1], Stanford University; School of Life Sciences[2], Tsinghua University
41	Milli-Spinner Thrombectomy	**Yilong Chang**[1], Qi Li[1], Shuai Wu[1], Renee Zhao[1] Department of Mechanical Engineering[1], Stanford University
42	Comprehensive Lipid Profiling of the Lyme Disease Pathogen *Borrelia burgdorferi* Provides Novel Insights into Lipid Acquisition, Biosynthesis, and Metabolism	**Poulami Chatterjee**[1], Miles Tuncel[2], Joshua McCausland[2], Esther Shin[2], Christine Jacobs-Wagner[2,3,4,5], Laura M. K. Dassama[1,2,5] Departments of Chemistry[1], Microbiology & Immunology[2], and Biology[4], HHMI[3], and Sarafan ChEM-H Institute[5], Stanford University
43	Leveraging 3'-UTR RNA Switches for Activation-Dependent Expression in Therapeutic T Cells	**Crystal Chen**[1], Adrià Cañellas-Socias[2], Noah Eckman[1], Jeremy Bjelajac[3], Tassilo L. A. Wachsmann[4], Jon Bezney[5], Kelcey Allen[1], Yu-Chia Cheng[5], Elena Sotillo[2], Eric Appel[4,6,7,8,9], Crystal L. Mackall[2,10,11], Lei Stanley Qi[4,7,12] Departments of Chemical Engineering[1], Bioengineering[4], Genetics[5], Materials Science & Engineering[6], Pediatrics (Endocrinology)[8], and

		Pediatrics[10], Center for Cancer Cell Therapy, Stanford Cancer Institute[2], Institute for Stem Cell & Regenerative Medicine[3], Sarafan ChEM-H[7], and Woods Institute for the Environment[9], Stanford University; Parker Institute for Cancer Immunotherapy[11]; Chan Zuckerberg Biohub[12]
44	TRANSFER: Programmable Macromolecule Delivery via Engineered Trogocytosis	**Xinyi Chen**[1], Yuexuan Yang[1], Yinglin Situ[1], Maylin Lum Fu[1], Lorenzo Magni[1], Mengting Han[1], Luna Lyu[2], Lei Stanley Qi[1,3,4] Department of Bioengineering[1], Institute for Computational & Mathematical Engineering[2], and Sarafan ChEM-H[3], Stanford University; Chan Zuckerberg Biohub[4]
45	Investigating the Balance Between Proliferation and Invasion in Breast Cancer Spheroid Models	**Vanessa Chiprez Meza**[1], Cole Allan[1], Rebecca Lau[2], Ovijit Chaudhuri[1] Departments of Mechanical Engineering[1] and Materials Science & Engineering[2], Stanford University
46	Tracking Microglial Phagocytosis in the Spinal Cord During Chronic Pain Progression	**Hyun June Cho**[1], Jenny Kim[1], Vivianne Tawfik[1] Department of Anesthesia[1], Stanford University
47	Binding NEMO: Peptide-Mediated Disruption of NEMO-IKKβ Binding to Inhibit NF-κB Activation	**Sowmya Chundi**[1], Rafaela Chitarra Rodrigues Hell[1], Eric R. Gross[1] Department of Anesthesiology, Perioperative & Pain Medicine[1], Stanford University
48	Pediatric Meniscus Stabilization – Suture Anchor Fixation for Discoid Meniscus and Anterior Rim Instability	**Iris Cong[1]**, Bryan Khoo[1], Hubert Tuyishime[1], Luis Fernando Viegas de Moraes Leme[1], Alan D. Anaya Gallegos[1], Paul J. Bergeron[1], Katelin J. Isakoff[1], Calvin Chan[1], Charles M. Chan[1], Molly Meadows[1], Philip L. Wilson[2,3], Henry B. Ellis[2,3], Marc Tompkins[4], Akbar N. Syed[5], Amishi Jobanputra[1], Brendon Mitchell[5], Theodore J. Ganley[5], Yi-Meng Yen[6], Matthew R. Schmitz[7], Kevin Shea[1] Department of Orthopaedic Surgery[1], Stanford University; Department of Orthopaedic Surgery[2], University of Texas Southwestern; Texas Scottish Rite Hospital for Children[3]; Department of Orthopaedic Surgery[4], University of Minnesota Twin Cities; Department of Orthopaedic Surgery[5], Children's Hospital of Philadelphia; Department of Orthopaedic Surgery[6], Boston Children's Hospital; Department of Orthopaedic Surgery[7], Rady Children's Hospital - San Diego
49	Analyzing Healthy Eating Index (HEI): Differences from Consuming a Vegan Diet Compared to Omnivore Diet: The Twins Nutrition Study (TwiNS) Randomized Controlled Trial	Catherine Ward[1], **Alma Cooper**[1], Matthew Landry[1], Christopher Gardner[1] Stanford Prevention Research Center[1], Stanford University
50	Tuning synNotch-Car T Cell Design Parameters to Target HER2-Expressing Breast Cancer	**Andrea Cortez Rodriguez**[1,2], Julian Perez[1,2], Jaclyn Ng[1,2], Rogelio Hernandez Lopez[1,2] Departments of Bioengineering[1] and Genetics[2], Stanford University
51	Leveraging Structural Bioinformatics to Identify Novel Lipid Handling Machinery in the Malaria Parasite	**Martin Dalling**[1,2], **Alexa Chen**[2], Matthias Garten[1,2], Laura M. K. Dassama[1,3] Departments of Microbiology & Immunology[1], Bioengineering[2], and Chemistry[3], Stanford University

52	Sex-Based Differences Modulate Skin Physiology and Dictate Sensorial Perception of Cosmetic Formulations	**Ashley David**[1], Sebastian Henrickx-Rodriguez[2], Rachele Pia Russo[1], Reinhold Dauskardt[1] Departments of Materials Science & Engineering[1] and Mechanical Engineering[2], Stanford University
53	ALDH2*2 Disrupts FGF21 Signaling in Metabolic Stress from Alcohol and Fasting	**Pedro De La Torre**[1], Naomi H. Lowenthal[1], Candida L. Goodnough[1], Eric R. Gross[1] Department of Anesthesiology, Perioperative & Pain Medicine[1], Stanford University
54	Multiplexed Microfluidics for High-Throughput Force Spectroscopy	**Matthew DeJong**[1], Yujia Bian[1], Alexander Dunn[1]*, Polly Fordyce[2,3]* (*equal contribution) Departments of Chemical Engineering[1], Genetics[2], and Bioengineering[3], Stanford University
55	Discovery and Engineering of *Cephalotaxus* Alkaloid Biosynthesis	**Yaereen Dho**[1], Elizabeth S. Sattely[2] Departments of Chemistry[1] and Chemical Engineering[2], Stanford University
56	Harnessing Neutrophils to Prevent Metastasis	**Markus I. Diehl**[1,2,3], Nathan E. Reticker-Flynn[2], Edgar G. Engleman[3] Program in Immunology[1] and Departments of Otolaryngology (Head & Neck Surgery)[2] and Pathology[3], Stanford University
57	Single Cell RNA Sequencing Meta-Analysis of Mouse Tendon Cells Reveals Increased Fibroblasts After Injury	**Sarah E. DiIorio**[1,2], Bill Young[1], John M. Lu[1,2], Derrick Wan[1], Michael Januszyk[1], Michelle Griffin[1], Michael T. Longaker[1,2] Hagey Laboratory for Pediatric Regenerative Medicine[1] and Institute for Stem Cell Biology & Regenerative Medicine[2], Stanford University
58	Cross-Species Transcriptomic Integration Reveals a Conserved, Miro1-Mediated Macrophage-to-T Cell Signaling Axis Driving Immunosuppression in Glioma	**Zehui Du**[1]*, Menghan Li[1]*, Brandon H. Bergsneider[1], Andy P. Tsai[2], Kwang Bog Cho[1], John Choi[1], Lily Kim[1], Gordon Li[1], Tony Wyss-Coray[2,3,4], Michael Lim[1,4†], and Xinnan Wang[1,4†#] (*equal contribution; †senior authors; #corresponding author) Departments of Neurosurgery[1] and Neurology & Neurological Sciences[2], The Phil & Penny Knight Initiative for Brain Resilience[3], and Wu Tsai Neurosciences Institute[4], Stanford University
59	Optimizing High Molecular Weight DNA Extraction for Long-Read Sequencing in Murine Bulk-Brain Samples	**Samuel Egboh**[1], Danielle Sanchez[1], Nishanth Narayan[1], Olubunmi Fariyike[1,2], Yingmei Li[1], H. Westley Phillips[1,5] Departments of Neurosurgery[1] and Child Neurology[4] and School of Medicine[2], Stanford University; University of California Davis[3]; Division of Pediatric Neurosurgery[5], Lucile Packard Children's Hospital
60	Thalamo-Prefrontal Circuitry Dynamically Evolves During Learning	**Isabella Elkinbard**[2], Sina Sadeghzadeh[2], Valerie Tsai[1], Theodore Ho[1], Karl Deisseroth[1], Vivek Buch[2] Departments of Bioengineering[1] and Neurosurgery[2], Stanford University
61	Proteolytic Activation of Diverse Antiviral Defense Modules in Prokaryotes	**Simone A. Evans**[1,2], Yannie Lam[2], Jianxiu Zhang[3], Dan Herschlag[2,4,5], Katherine Wang[2], Liang Feng[3,6], Alex Gao[3,7] Departments of Genetics[1], Biochemistry[2], Molecular & Cellular Physiology[3], Chemistry[4], Chemical Engineering[5], Structural Biology[6], and Microbiology & Immunology[7], Stanford University

62	Proteomic Networks Driving Exercise-Induced Muscle Adaptation	**Amelia Everett**[1], Aubrey Roberts[1], Malene Lindholm[1], Michael Snyder[1] Department of Genetics[1], Stanford University
63	At-Home Deep Phenotyping Using "Wearable Precision Psychiatry" Platform	Ivy Kilar[1]*, **Saba Faghihzadeh**[1]*, Ali Rahimpour Jounghani[1], Laura Moreno Carboneli[1], Hadi Hosseini[1] (*equal contribution) Department of Psychiatry & Behavioral Sciences[1], Stanford University School of Medicine
64	Disruption of the Cerebrospinal Fluid–Plasma Protein Balance in Cognitive Impairment and Aging	**Amelia Farinas**[1], Jarod Rutledge[1], Veronica Augustina Bot[1], Daniel Western[5], Kejun Ying[1,6], Kathryn A. Lawrence[2], Hamilton Se-Hwee Oh[1], Seonghyun Yoon[1], Daisy Yi Ding[1], Andy P. Tsai[1], Patricia Moran-Losada[1], Jigyasha Timsina[5], Yann Le Guen[4], The Global Neurodegeneration Proteomics Consortium, Stephen B. Montgomery[2], David Baker[6], Kathleen L. Poston[1], Anthony D. Wagner[3], Elizabeth Mormino[1], Carlos Cruchaga[5], Tony Wyss-Coray[1] Departments of Neurology[1], Genetics[2], Psychology[3], and Medicine[4], Stanford University; Department of Psychiatry[5], Washington University in St. Louis; Department of Biochemistry[6], University of Washington
65	Regulators of Neuronal Maturation in Organoids	**Alice Finkelstein**[1], Kent Imaizumi[1], Kevin W. Kelley[1], Sergiu P. Pașca[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
66	Multiplex Imaging for Mapping the Distribution and Function of Immune Cells	**Qunfeng Fu**[1], Jianghong Rao[1] Department of Radiology (Molecular Imaging Program at Stanford)[1], Stanford University
67	Uncovering Taurine Pathway Amidohydrolase PTER as an Obesity Therapeutic Target	**Sipei Fu**[1,2,3]*, Lushun Wang[2,5]*, Veronica L. Li[1,2,4]†, Xuchao Lyu[1,2,4], Wei Wei[1,2,4], Robert E. Gerszten[6], Mark D. Benson[6], Nathanael S. Gray[2,5]†, Stephen M. Hinshaw[2,5]†, Jonathan Z. Long[1,2,4,7]† (*equal contribution; †corresponding authors) Departments of Pathology[1], Biology[3], Chemical & Systems Biology[5], Sarafan ChEM-H[2], Wu Tsai Human Performance Alliance[4], and The Phil & Penny Knight Initiative for Brain Resilience at the Wu Tsai Neurosciences Institute[7], Stanford University; Division of Cardiovascular Medicine[6], Beth Israel Deaconess Medical Center
68	PERK Absence Modulates Tau Pathology in Brain Organoid Model	**Angela Galdamez**[1,2], Soyoung Park[1,2], Hyejung Min[1,2], Goonho Park[1,2], Li Li[3], SungSoo Jan[4], Anca M. Pasca[3], John Hueguard[4], Jonathan Lin[1,2] Departments of Pathology[1], Pediatrics (Neonatology)[3], and Neurology & Neurological Sciences[4], Stanford University; VA Palo Alto Healthcare System[2]
69	Synthesis-Free Hydrogel Platform for Improving Subunit Vaccines through Sustained Delivery	**Priya Ganesh**[1], Alexander N. Prossnitz[1], Carolyn K. Jons[1], Noah Eckman[2], Alakesh Alakesh[1], Ye Eun Song[1], Samya Sen[1], Eric A. Appel[1]. Departments of Materials Science & Engineering[1] and Chemical Engineering[2], Stanford University
70	A Novel Approach for Identifying Thyroid Autoantigen-Specific B Cells in Autoimmune Thyroid Disease	**Hemali Gauri**[1], Rizwan Ahmed[1], Alysa Rallistan[1], Chrysoula Dosiou[2], P.J. Utz[1,3]

		Department of Medicine (Divisions of Immunology & Rheumatology[1] and Endocrinology, Gerontology, & Metabolism[2]) and Institute for Immunity, Transplantation, & Infection[3], Stanford University
71	Developing Genetic Tools for *Trichoderma atroviride* to Explore Its Role in the Rhizosphere	**Jaqueline Gerhardt**[1], Anna Katharina Preidl[1], Shahar Schwartz[1], José Manuel Villalobos-Escobedo[2], Vayu Hill-Maini[1] Department of Bioengineering[1], Stanford University; Institute for Obesity Research[2], Tecnológico de Monterrey
72	Preliminary Mapping of Pain-Responsive Brain Circuits in Mice	**Tyler Girard**[2], Nicholas Gregory[1], Boris Heifets[1] Departments of Anesthesiology, Perioperative, & Pain Medicine[1] and Biology[2], Stanford University
73	The Morphing Wall: The Changing Chemical Structure of *Staphylococcus aureus*'s Cell Wall	**Karen Glenn**[1], Lynette Cegelski[1] Department of Chemistry[1], Stanford University
74	Engineering Biofilm Formation in *Pseudomonas Putida* for Applications in Relieving Drought Stress in Plants	**Nathan Godsey**[1], Ekaterina Kozaeva[1], Jennifer Brophy[1] Department of Engineering[1], Stanford University
75	Novel Aldehyde Dehydrogenase 2 Variants in Africans/African Americans Affect Acetaldehyde Metabolism	**Maya Goldsberry**[1], Freeborn Rwere[1], Tanaz Jamilpanah[1], Rafaela Chitarra Rodrigues Hell[1], Sowmya Chundi[1], Eric R. Gross[1] Department of Anesthesiology, Perioperative & Pain Medicine[1], Stanford University
76	High-Density Electrode Catheter Mapping for Cardiac Electrical Activity Localization	**Arizbel Gomez**[1], Rahul Penumaka[1], Alex Xia[1], Dylan Mayanja[1], Meg Babakhanian[1], Cel Welch[2], Muhammad Khatib[2], Zhenan Bao[2], Paul J. Wang[2] Departments of Cardiology[1] and Chemical Engineering[2], Stanford University
77	Mechanical Characterization of Fungi Meat Alternatives	**Marie Goodson**[1], Lucas Boyle[1], Manuel Palomares[1], Nancy Zhang[1], Skyler St. Pierre[1], Ellen Kuhl[1] Department of Mechanical Engineering[1], Stanford University
78	Exploring a Maximum-Likelihood Estimation Maximization (MLEM) Approach for Reconstruction of Photon Attenuation-Corrected Annihilation Photon Emission Activity in Time-of-Flight Positron Emission Tomography (TOF-PET)	**Caio Gould**[1,2], Garry Chinn[1], Muhammad N. Ullah[1], Grant Hee-Sung Park[1], Craig S. Levin[1,2,3,4] Departments of Radiology[1], Physics[2], Electrical Engineering[3], and Bioengineering[4], Stanford University
79	Developing a Positron Emission Tomography (PET) Tracer for Imaging Inflammation in the Brain and Whole Body: From Conception to Clinical Translation	**Jonathan Green**[1]*, **Pok Kong Tsoi**[1]*, Samantha Reyes[1], Piper Mahn[1], Alexis Green[1], Mira Sundar[1], Andrew Setiadi[1], Spencer Mak[1], Sara Marsango[3], Valentina Straniero[2], Grace Inay[1], Rim Malek[1], Allen F. Brooks[4], Tanpreet Kaur[4], Corinne Beinat[1], Ermanno Valoti[2], Graeme Milligan[3], Peter Scott[4], Renesmee Kuo[1†], Mausam Kalita[1†], Michelle L. James[1,5†] (*equal contribution; †corresponding/senior authors) Departments of Radiology[1] and Neurology & Neurological Sciences[5], Stanford University; Department of Pharmaceutical Sciences[2], University of Milan; Centre for Translational Pharmacology[3], School of Molecular Biosciences, University of Glasgow; Department of Radiology[4], The University of Michigan Medical School

80	Ion-Selective Conformations of a Disordered Protein Domain	**Alana P. Gudinas**[1], Gatha M. Shambharkar[2], Marina P. Chang[2], Daniel Fernández[3], Tsutomu Matsui[4], Danielle J. Mai[2,5] Departments of Physics[1], Materials Science & Engineering[2], and Chemical Engineering[5] and Macromolecular Structure Group (Nucleus at Sarafan ChEM-H)[3], Stanford University; Stanford Synchrotron Radiation Lightsource[4], SLAC National Accelerator Laboratory
81	Migrating T Cells Rupture Confining Microenvironments via Breaststroke Mechanism Regulated by Matrix Shear Strength	**Byunghang Ha**[1], Peter Xie[1], Maria Korah[2], Daniel Delitto[2], Paul Bollyky[3], Ovijit Chaudhuri[1] Departments of Mechanical Engineering[1], Surgery[2], and Infectious Diseases[3], Stanford University
82	Novel Charge-Altering Releasable Transporters (CARTs) Efficiently and Selectively Delivery RNA in Vivo to the Lungs, Spleen, and Blood and Reach the Brain	**Jennifer L. Hamad**[1,8], **Zhijian Li**[1], Laura Amaya[2,5], Aloysius Ee[1], Pavan K. Yadav[1], Sean K. Wang[2], Robert M. Waymouth[1], Howard Y. Chang[2,4], Paul A. Wender[1,3]* (*corresponding author) Departments of Chemistry[1], Chemical & Systems Biology[3], and Biology[8], Center for Personal Dynamic Regulomes[2], Howard Hughes Medical Institute[4], Institute for Stem Cell Biology & Regenerative Medicine[5], Division of Infectious Diseases & Geographic Medicine[6], and Chan Zuckerberg Biohub[7], Stanford University
83	Efficient H_2O_2 Production Via 2e- Water Oxidation Reaction Via Mott-Schottky Junction	**Kiran Srinivasan Hamkins**[1,2], Michal Bajdich[2], Xiaolin Zheng[1] Department of Mechanical Engineering[1], Stanford University; SUNCAT Center for Interface Science & Catalysis[2], SLAC National Accelerator Laboratory
84	Multimodal Predictors of Alzheimer's Disease	**Ario Hamrah**[1], Barbara Avelar Pereira[1], Saman Sarraf[1], Hadi Hosseini[1] Department of Psychiatry & Behavioral Sciences, C-BRAIN Lab[1], Stanford University
85	Intrinsic Heterogeneity of Primary Cilia Revealed Through Spatial Proteomics	**Jan N. Hansen**[1,2], Huangqingbo Sun[1]*, Konstantin Kahnert[1]*, Eini Westenius[3,4], Alexandra Johannesson[2], Carmela Villegas[5], Trang Le[1,2], Kalliopi Tzavlaki[2], Casper Winsnes[2], Emmie Pohjanen[2], Anna Mäkiniemi[2], Jenny Fall[2], Frederic Ballllosera Navarro[1], Anna Bäckström[1,2], Cecilia Lindskog[6], Fredric Johansson[2], Kalle von Feilitzen[2], Angelica M. Delgado-Vega[3,4], Anna Martinez Casals[1], Diana Mahdessian[2], Mathias Uhlén[2,7], Shu-Hsien Sheu[5], Anna Lindstrand[3,4], Ulrika Axelsson[2], Emma Lundberg[1,2,8,9] (*equal contribution) Departments of Bioengineering[1] and Pathology[8], Stanford University; Science for Life Laboratory (School of Engineering Sciences in Chemistry, Biotechnology & Health)[2], KTH - Royal Institute of Technology; Departments of Molecular Medicine & Surgery[3] and Neuroscience[7], Karolinska Institutet; Department of Clinical Genetics & Genomics[4], Karolinska University Hospital; Chan Zuckerberg Imaging Institute[5]; Department of Immunology, Genetics & Pathology (Cancer Precision Medicine Research Unit)[6], Uppsala University; Chan Zuckerberg Biohub[9]

86	*Ex vivo* Models of Tumor-Immune-Stromal Interactions to Study Drug Response in Lung Adenocarcinoma	**Dina Hany**[1], Anum Khan[1], Jacob Chang[1], Sylvia K. Plevritis[1] Department of Biomedical Data Sciences[1], Stanford University
87	The Impact of Insomnia Symptoms on Recognition Memory and Mnemonic Discrimination in Older Adults with Mild Cognitive Impairment	**Leah N. Harris**[1], Kathleen O'Hora[1], Allison Morehouse[1], Abigail Cirelli[1], Adam Krause[1], Maryam Ahmadi[1], Raquel Osorno[1], Bryce A. Mander[2], Andrea N. Goldstein-Piekarski[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University; Departments of Psychiatry & Human Behavior, Pathology & Laboratory Medicine, and Cognitive Sciences[2], University of California Irvine
88	From Sniff to Signal: A Low-Cost Olfactometer for Studying Neural Oscillations with Respiration-Synchronized Odor Delivery	**Alisa Hathaway**[1], Todd Coleman[2] Departments of Electrical Engineering[1] and Bioengineering[2], Stanford University
89	Enhanced Detection of Rare Cells in Hodgkin Lymphoma Using TabMap for Single-Cell RNA Sequencing Analysis	**Andrew Heider**[1], Shengqin Su[1], Rui Yan[2], Ajay Subramanian[2], Lei Xing[1], Michael S. Binkley[1] Departments of Radiation Oncology[1] and Psychiatry & Behavioral Sciences[3] and Institute for Computational & Mathematical Engineering[2], Stanford University
90	Towards Wastewater-Based Epidemiology of Bacterial Pathogens with Surface-Enhanced Raman Spectroscopy and Dielectrophoresis	**Liam Herndon**[1], Yirui Zhang[2], Babatunde Ogunlade[2], Fareeha Safir[4], Halleh Balch[2], Alexandria Boehm[3], Jennifer Dionne[2,4] Departments of Chemical Engineering[1], Materials Science & Engineering[2], and Civil & Environmental Engineering[3], Stanford University; Pumpkinseed Technologies[4]
91	Fueling the Firehouse: Eight-Week Plant-Forward Diet Reshapes Body Composition & Consumption Behavior in Active-Duty Firefighters	**Gibson Holmes**[1], Andrea Krenek[2], Lindsey Durand[2], Roujheen Sabetan[2], Christopher D. Gardner[2] Program in Human Biology[1] and Stanford Prevention Research Center[2], Stanford University
92	Identifying Mutations in Chemoresistant Acute Lymphoblastic Leukemia Single Cells Using CloneXplorer and Primary Template-Directed Amplification (PTA)	**Ella Homewood**[1], Athena Aragon[1], Katie Chung[1], Veronica Gonzalez-Pena[1], Guido Stadler[2], Benjamin Yellen[2], Charles Gawad[1] Department of Hematology/Oncology[1], Stanford University; Celldom, Inc.[2]
93	Comparative Analysis of Adenine Base Editing and Cre Recombination in Plasmids and Viral-like Particle (VLP) Systems	**Shota Homma**[1], Carsten T. Charlesworth[1], Raneem Elkhamisy[1], Hiromitsu Nakauchi[1] Department of Genetics[1], Stanford University School of Medicine
94	Breakthrough Manufacturing Platform for Cellular Immunotherapies Enables Efficacy, Affordability, & Scale	James Liu[1], Ece Canan Sayitoglu[1,2], Grace Eppolito[1], Alicia Romero[1], Albina Popova[1], Miguel Madero[1], Rui Tostoes[1], **Nina Horowitz**[1,3] ImmuneBridge, Inc.[1]; Departments of Pediatrics[2] and Bioengineering[3], Stanford University
95	Comparing Emergency Department and Urgent Care Utilization between Heterosexual and Sexual Minority Adults in the United States: A Cross-Sectional Study	**Elaine Hsiang**[1], Christopher Bennett[1] Department of Emergency Medicine[1], Stanford University
96	Leveraging Deep Learning Models to Evaluate Transcriptional Regulators of SCLC Plasticity	**Marcus Hsieh**[1,2], Debadrita Bhattacharya[1,2], Selin Jessa[2], Anshul Kundaje[2,3], Julien Sage[1,2]

		Departments of Pediatrics[1], Genetics[2], and Computer Science[3], Stanford University
97	Developing the Surgeon-Machine Interface	**Ethan Htun**[1,3], Manuel Rebol[1], Nehal Doiphode[1,4], Bruce Xu[1], Luca Violone[1], Nicole Tin[1], Jay Park[1,2], Vivek Buch[1,2] SIMI Lab[1], Department of Neurosurgery[2], and School of Engineering[3], Stanford University; Department of Bioengineering[4], Columbia University
98	3D Differentiation of Neural Progenitor Cells Is Enhanced in N-cadherin Mimetic Matrices	**Michelle S. Huang**[1], Bauer L. LeSavage[2], Sadegh Ghorbani[3], Aidan E. Gilchrist[3], Carla Huerta-López[3], Sarah C. Heilshorn[3] Departments of Chemical Engineering[1], Bioengineering[2], and Materials Science & Engineering[3], Stanford University
99	Welcoming Allies to the Empowerment Neuroscience Lab: Catalyzing Human Flourishing and Team Excellence through Neuroscience	**Simon (Hongzhang) Huang**[1], Sabyasachi Bandyopadhyay[2], Stephanie Lefevre[3], Stephanie Balters[3] Graduate School of Business[1] and Departments of Cardiovascular Medicine[2] and Psychiatry & Behavioral Sciences[3], Stanford University
100	Model of Biomolecular Controller with Bi-Stability Simulates Gut Infection Detection and Treatment via Various Strategies	Duoer Zhang[1], **Yulin Huang**[1], Michaëlle N. Mayalu[1] Department of Mechanical Engineering[1], Stanford University
101	Novel Adjustable Model for Analysis of Hemodynamics and Biomechanics of Pediatric Common Atrioventricular Valve and Subvalvular Apparatus	**Jay Huber**[1], **Sayar Munshi**[1], Amit Sharir[1], Yoshikazu Ono[1], Michael Ma[1] Department of Cardiothoracic Surgery (Division of Pediatric Cardiac Surgery)[1], Stanford University
102	Peripheral Blood B Cell Transcriptomics: Charting a Path to Osteoarthritis Biomarkers	**Kiian Huenemann**[1], Yudhishtar Bedi[1], Neety Sahu[1], Constance R. Chu[1,2], Nidhi Bhutani[1] Department of Orthopaedic Surgery[1], Stanford University; VA Palo Alto Health Care System[2]
103	Engineering a Fallopian Tube Model for Mechanistic Studies of Hydrosalpinx	**Carla Huerta-López**[1], Vanessa M. Doulames[1], Sarah C. Heilshorn[1] Department of Materials Science & Engineering[1], Stanford University
104	HDR-GPT: A Large Language Model Agent for Optimizing Homology-Directed Repair Efficiency in CRISPR Editing	**Jingwen Hui**[1], Freja Kjellaug Amalia Ekman[2], Hana Yousef Ghanim[3], Sridhar Selvaraj[4], Yuanhao Qu[5], Matthew Porteus[4], Le Cong[6]* (*corresponding author) Department of Bioengineering[1], University of California San Diego; Departments of Genetics[2], Pediatrics[4], and Pathology[6], Stem Cell Biology & Regenerative Medicine Program[3], and Cancer Biology Program[5], Stanford University
105	Activating the DNA Helicase: How CDK2 Phosphorylation of RecQL4 Promotes DNA Replication Initiation	**Elyse Hwang**[1], Scott Berger[2], Gheorghe Chistol[2] Departments of Biology[1] and Chemical & Systems Biology[2], Stanford University
106	Shocking Results?! An Investigation of Electrical Stimulation and Brain Activation Using fMRI	**Teresa Indriolo**[1], Merve Kaptan[1], Christine Law[1], Ken Weber[1] Department of Anesthesiology, Perioperative & Pain Medicine[1], Stanford University

107	Portable Heater-Cooler Unit for Extracorporeal Membrane Oxygenation	**Zachary Irwin**[1], Yellappa Palagani[1], Amit Sharir[1], Joshua Cowan[2], Justin Sleasman[2], Perry S. Choi[1], Alexander K. Reed[1], Michael R. Ma[1]* (*corresponding author) Department of Cardiothoracic Surgery[1] and Lucile Packard Children's Hospital[2], Stanford University
108	Development of Honokiol Prodrug in Alleviating Myocardial Mitochondrial Dysfunction and Restrictive Cardiomyopathy After Irradiation	**James W.S. Jahng**[1,2], Yunkyeong Lee[3], Stavros Melenidis[2,4], Xu Cao[1,2], Erin Hu[1,2], Dide Wu[1,2], Yang Zhou[1,2], Jonathan Achter[5], Jingshan Gao[1,2], Sangkyun Cho[1,2], Siyeon Rhee[1,2], Jeremy Leitz[1], Souhrid Mukherjee[1], Alicia Lundby[5], Billy W Loo[2,4], Joseph C. Wu[1,2,6] Stanford Cardiovascular Institute[1] and Departments of Medicine[2], Pediatrics[3], Radiation Oncology[4], and Radiology[6], Stanford University; Department of Biomedical Sciences[5], University of Copenhagen
109	Modulating Oxygen Tension in Bone Tissue Engineering via Hemoglobin-Loaded Microribbon Hydrogels	**Michelle M.T. Jansman**[1], Fan Yang[1,2] Departments of Orthopaedic Surgery[1] and Bioengineering[2], Stanford University
110	Real-Time Continuous Monitoring of Beta Cell Health at Transplantation Site	**Jenny Ji**[1], Yihang Chen[2], Emma Kranich[3], Max Yates[3], Qitao Hu[4], Sopida Pimcharoen[1], H. Tom Soh[1,3,4] Departments of Bioengineering[1], Materials Science & Engineering[2], Electrical Engineering[3], and Radiology[4], Stanford University
111	Modulating Material Properties of Postsynaptic Density Condensate for Regulating Synaptic Functions	**Bowen Jia**[1,2,5], Zeyu Shen[2,5], Shihan Zhu[2,5], Zhitao Liao[3], Jingguo Huang[4], Mingjie Zhang[5], Thomas Südhof[1] Department of Molecular & Cellular Physiology[1], Stanford University; Division of Life Science[2] and Department of Physics[3], Hong Kong University of Science & Technology; School of Basic Medical Sciences[4], Fujian Medical University; School of Life Sciences[5], Southern University of Science & Technology
112	Transformable Supraclusters to Reverse Immune Suppression and Enhance Stereotactic Ablative Radio-Immunotherapy	**Yuyan Jiang**[1], Hongbin Cao[1], Huaping Deng[1], Li Guan[1], Jimpi Langthasa[1], Deana Rae Crystal Colburg[2], Stavros Melemenidis[1], Renee M. Cotton[3], John Aleman[4], Xiao-Jing Wang[5,6], Edward E. Graves[1], Anusha Kalbasi[1], Kanyi Pu[7,8], Jianghong Rao[9,10], Quynh-Thu Le[1] Departments of Radiation Oncology[1], Pathology[2], Comparative Medicine[3], Chemistry[9], and Radiology (Molecular Imaging Program at Stanford)[10], Stanford University; Department of Pathology[4], University of Colorado; Department of Pathology & Laboratory Medicine[5], University of California Davis; Veterans Affairs Northern California Health Care System[6]; School of Chemistry, Chemical Engineering & Biotechnology[7] and Lee Kong Chian School of Medicine[8], Nanyang Technological University
113	A Mechanistic, Whole-Cell Model of Mecillinam Transport and Action	**Tim Jing**[1], Mica Yang[1], Sean Cheah[1], Mia Grahn[2], Tatsuya Akiyama[3], Minsu Kim[3], Markus Covert[1] Departments of Bioengineering[1] and Chemical Engineering[2], Stanford University; Department of Physics[3], Emory University

114	Simultaneous CRISPR-Mediated Integration of Large Gene Cassettes Using Dual AAV Donor Vectors	**Nicole Johnston**[1,2,3], Alvaro Amorin[2,3], William Feist[2,3], Shridar Selvaraj[2,3], Lexi-Ann Golden[2,3], Freja Ekman[2,3], Sofia Luna[2,3], Matthew H. Porteus[2,3] Departments of Neurosurgery[1] and Pediatrics[2] and Institute for Stem Cell Biology & Regenerative Medicine[3], Stanford University
115	Mechanical Cues Shape Immunomodulation: Matrix Stress-Relaxation Modulates Macrophage Phenotype in 3D Brain-Mimicking Hydrogels	**Audrey Jung**[1]*, **Mark Fleck**[2]*, Sauradeep Sinha[3], Sarah Jones[2], Abena Peasah[1], Fan Yang[1,4] (*equal contribution) Departments of Bioengineering[1], Chemistry[2], and Orthopaedic Surgery[4], Stanford University; St Jude's Children's Research Hospital[3]
116	High-Throughput Contractility and Stiffness Measurement of hiPSC-Derived Cardiomyocyte	**Adithan Kandasamy**[1,2], Ricardo Serrano[1], David W. Staudt[1], Juan Carlos del Álamo[2], Mark Mercola[1] Cardiovascular Institute, Department of Medicine[1], Stanford University; Department of Mechanical Engineering[2], University of Washington - Seattle
117	Small Molecule Modulation of the $p75^{NTR}$ with LM11A-31 Decreases Synapse Elimination by Microglia in a Huntington's Disease Mouse Model	**Seohyeong Jenna Kang**[1], Danielle A. Simmons[1], Frank M. Longo[1,2] Department of Neurology & Neurological Sciences[1] and Wu Tsai Neuroscience Institute[2], Stanford University
118	Next-Generation Mapping of the ACINUS-Mediated Alternative Splicing Machinery and Its Regulation by O-Glycosylation in Arabidopsis	Ruben Shrestha[1], Andres V. Reyes[1], **Sumudu Karunadasa**[1], Shane Carey[1], Zhi-Yong Wang[1], **Shou-Ling Xu**[1] Department of Plant Biology[1], Carnegie Institution of Science, Stanford University
119	Evaluating the Effects of Musical Preference on the Subcortical and Cortical Neural Responses of Neurotypical Late Adolescents	**Ariya Kaushek**[1], Tong Shan[1], Dawlat El-Said[1], Montana Wilson[1], Daniel A. Abrams[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
120	Language Processing and Executive Control in a Goal-Directed Virtual Environment: A Precision fMRI Approach	**Weston Keller**[2], Cory Shain[1] Departments of Linguistics[1] and Electrical Engineering[2], Stanford University
121	Gender Differences in Composite Scores in the Behavioral Assessment System for Children, Third Edition (BASC-3)	**Sania Khanzode**[1], Jordan Frederiksen[1], Manu Kaur[1], David Hong[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
122	Meniscus Root Stabilization in Pediatrics – Can We Deploy Suture Anchors for Pediatric Root Repair?	**Bryan Khoo**[1], Hubert Tuyishime[2], Luis Fernando Viegas de Moraes Leme[2], Iris Cong[2], Alan Anaya Gallegos[2], Paul Bergeron[1], Katelin Isakoff[2], Calvin Chan[1], Charles M. Chan[1], Molly Meadows[1], Philip Wilson[3], Henry Ellis[3], Marc Tompkins[4], Akbar Syed[5], Amishi Jobanputra[1], Brendon Mitchell[5], Theodore Ganley[5], Yi-Meng Yen[6], Matthew Schmitz[7], Kevin Shea[1] Department of Orthopaedic Surgery[1] and School of Medicine2, Stanford University; Scottish Rite for Children[3]; Department of Orthopedic Surgery[4], University of Minnesota Twin Cities; Division of Orthopaedics[5], Children's Hospital of Philadelphia; Department of Orthopedics & Sports Medicine[6], Boston Children's Hospital; Rady Children's Hospital - San Diego[7]

123	Anatomy of the Pediatric Proximal Tibiofibular Joint – Avoiding Physeal Injury During Anatomic Restoration of Joint Instability	Katelin J. Isakoff[1], Luis Fernando Viegas de Moraes Leme[1], Hubert Tuyishime[1], Alan D. Anaya Gallegos[1], **Bryan Khoo**[1], Iris Cong[1], Paul J. Bergeron[1], Kelly McFarlane[1], Calvin Chan[1], Amishi Jobanputra[1], Amy Steele[1], Stephanie Pearce[2], Akbar Nawaz Syed[3], Brendon C. Mitchell[3], Yi-Meng Yen[4], Matthew Schmitz[5], Marc Tompkins[6], Philip L. Wilson[7], Molly Meadows[1], Charles M. Chan[1], Henry B. Ellis[8], Theodore J. Ganley[3], Kevin Shea[1] Department of Orthopaedic Surgery[1], Stanford University; Nemours Children's Hospital[2]; Division of Orthopaedics[3], Children's Hospital of Philadelphia; Department of Orthopedics & Sports Medicine[4], Boston Children's Hospital; Rady Children's Hospital - San Diego[5]; Department of Orthopedic Surgery[6], University of Minnesota Twin Cities; Scottish Rite for Children Sports Medicine[7]; University of Texas Southwestern Medical Center; Scottish Rite for Children[8]
124	Biomechanics of the Pediatric MPFL and MQTFL – What Graft Strength Is Necessary for Successful MPFL/MQTFL Reconstruction?	Luis Fernando Viegas de Moraes Leme[1], **Bryan Khoo**[2], Alan Anaya Gallegos[1], Katelin Isakoff[1], Amin Alayleh[3], Hubert Tuyishime[1], Paul Bergeron[1], Iris Cong[1], Calvin Chan[2], Amishi Jobanputra[2], Akbar Syed[4], Brendon Mitchell[4], Marc Tompkins[5], Yi-Meng Yen[6], Molly Meadows[2], Charles M. Chan[2], Matthew Schmitz[7], Philip Wilson[8], Henry Ellis[8], Theodore Ganley[4], Kevin Shea[2] School of Medicine[1] and Department of Orthopaedic Surgery[2], Stanford University; University of California San Francisco Health St. Mary's Hospital[3]; Department of Orthopaedics[4], The Children's Hospital of Philadelphia; Department of Orthopaedic Surgery[5], University of Minnesota; Department of Orthopedic Surgery & Sports Medicine[6], Boston Children's Hospital; Rady Children's Hospital - San Diego[7]; Scottish Rite for Children[8]
125	Refillable Drug-Eluting Intraocular Implant: Design and Evaluation	**Hyeonji Kim**[1], Nae-Won Kang[1], David Myung[1], Charles DeBoer[1]* (*corresponding author) Spencer Center for Vision Research and the Byers Eye Institute[1], Stanford University
126	Macroporous Microribbon Scaffolds Activate Regulatory T Cells in Skin Wound Regeneration by Modulating NETosis	**Sung-Won Kim**[2], Iris Qu[1], Aidan Tomas Cabral[1], Callie Weber[2], Michelle Tai[1], Huang-Pang Lee[1], Jeehee Lee[1], Hawa Racine Thiam[1,3,4], Fan Yang[1,2] Departments of Bioengineering[1], Orthopaedic Surgery[2], and Microbiology & Immunology[3] and Sarafan ChEM-H Institute[4], Stanford University
126B	Investigating the Role of MYC-Regulated Extracellular Vesicles in T-cell Immune Evasion in the Tumor Microenvironment	**Ethan J. Kirgan**[1], Alessia Felici[2,3], Danielle F. Atibalentja[2,3], Ling Tong[2,3], Anja Deutzmann[2,3], Dean W. Felsher[2,3] Departments of Biology[1], Medicine (Division of Oncology)[2], and Pathology[3], Stanford University
127	Advancing Spatially Resolved, High-Throughput Pooled Genetic Screens *in vivo*	**Seth Tadamichi Kohno**[1,2], Peter Du[1], Leighton Daigh[1,2,3], Michael Bassik[1] Departments of Genetics[1], Bioengineering[2], and Pathology[3], Stanford University

128	Examining Fronto-Limbic Brain and Sleep Mechanisms of Anti-Depressant Effects in Cognitive-Behavioral Therapy for Insomnia	**Adam J. Krause**[1], Raquel Osorno[1], Natalie Solomon[1], Maryam Ahmadi[1], Pandora Lam[1], Olivia Magana[1], Emilija Blozyte[1], Leah Harris[1], Sarah Izabel[1], Rebecca A. Bernert[1], Leanne M. Williams[1], James J. Gross[1], Jun Ma[2], Laura Lazzeroni[1], Jerome A. Yesavage[1], Rachel Manber[1], Jared M. Saletin[3], Andrea N. Goldstein-Piekarski[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University; Center for Health Behavior Research, Department of Medicine[2], University of Illinois Chicago; Department of Psychiatry & Human Behavior[3], Brown University
129	Gastrointestinal Symptoms & Habits Among Pregnant Moms Participating in FeFiFo-MOMS: Effects of Fermented & Fiber-Rich Foods on Maternal and Offspring Microbiome Study	**Andrea Krenek**[1], Catherine Ward[1], Tierra Mosher[2], Christopher Gardner[1] Stanford Prevention Research Center[1] and Department of Pediatrics[2], Stanford University
130	Solid Stress in Articular Cartilage	**Aarushi Kumar**[1], Jake Song[1], Ovijit Chaudhuri[1] Department of Mechanical Engineering[1], Stanford University
131	Rapid Two Photon Electro-Optical Light Sheet Fluorescence Lifetime Imaging for Tissue Volume Interrogation	**Prashant Kumar**[1], Rose Knight[1], Mark Kasevich[1] Department of Physics[1], Stanford University
132	Optogenetic Proximity Labeling Maps Spatially Resolved Mitochondrial Surface Proteome and Its Plasticity	**Chulhwan S. Kwak**[1], Joe Creery[2], Emily Zarbock[3], Joshua Elias[2], Benjamin Major[3], Xinnan Wang[1]* (*corresponding author) Department of Neurosurgery[1], Stanford University; Chan-Zuckerberg Inistitute[2]; Department of Cell Biology & Physiology[3], Department of Otolaryngology, Washington University
133	Bridging Histology and OCT: Cell-Level Registration for Multimodal Biomolecular Imaging	**Zerlina Lai**[1,2], Emilie Manning[1], Komal Sharma[1], Marc Niethammer[2], Yonatan Winetraub[1] Department of Structural Biology[1], Stanford University; Computer Science & Engineering[2], University of California San Diego
134	A Framework to Define and Predict Surgical Recovery Success Using Wearable Data: A Case Study in Spine Surgery	**Sayeri Lala**[1], Mengrui Zhang[2], Aparajita Khan[3], Gabriella Morton[1], Nicolai Maldaner[4], Summer Han[1,2,5,6]*, Corinna Zygourakis[1]* (*equal contribution) Departments of Neurosurgery[1] and Epidemiology & Population Health[7], Quantitative Sciences Unit[2], and Stanford Cancer Institute[6], Stanford University; Department of Computer Science & Engineering[3], Indian Institute of Technology; Department of Neurosurgery[4], University Hospital Zürich
135	Unraveling Siglec Expression in Immune Cells	**Nathan S. Lam**[1], Ru M. Wen[1], Hongjuan Zhao[1], James D. Brooks[1] Department of Urology[1], Stanford University
136	Blocking a “Don’t Eat Me” Signal: Characterization and Epitope Mapping of a Cross-Reactive CD47 Antibody	**Kasey Lassen**[1], Camille Petrakian[2], Jennifer Cochran[1] Departments of Bioengineering[1] and Chemistry[2], Stanford University
137	Matrix Mechanics and Tethered TGF-β Cooperatively Regulate Chondrogenic Differentiation	**Hung Pang Lee**[1], Georgios Mikos[2], Sarah Jones[2], Julius A. Neumann[4], Manish Ayushman[4], Fan Yang[1,4]

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138	Personalized Cancer Research: Bioengineered 3D Osteosarcoma Models to Investigate Tumor Heterogeneity and Drug Responses	**Jeehee Lee**[1], Leanne Sayles[2], Alex G. Lee[2], Varsha Naga[3], Kyle K. Roh[3], Callan E. F. Monette[3], Abena Peasah[3], Michelle Tai[3], E. Alejandro Sweet-Cordero[2], Fan Yang[1,3] Departments of Orthopaedic Surgery[1] and Bioengineering[3], Stanford University; Department of Pediatrics[2], University of California San Francisco
139	Validation of a Novel Organoid Model of Osteonecrosis for High-Throughput Drug Screening	**Max L. Lee**[1], Glen Liau[1], Yosuke Susuki[1], Mehmet Sertac Sekuc[1], Hannes Kern[1], Takahiro Igei[1], Kuan-Lin Chen[1], Simon Kwoon-Ho Chow[1], Qi Gao[1], Stuart B. Goodman[1] Department of Orthopaedic Surgery[1], Stanford University
140	Validation of a Novel Organoid Model of Osteoarthritis for High-Throughput Drug Screening	**Max L. Lee**[1], Glen Liau[1], Mayu Morita[1], Yasemin Sude Ergul[1], Chao Ma[1], Kuan-Lin Chen[1], Simon Kwoon-Ho Chow[1], Hang Lin[2], Bruce A. Bunnell[3], Qi Gao[1], Stuart B. Goodman[1] Department of Orthopaedic Surgery[1], Stanford University; Center for Cellular & Molecular Engineering, Department of Orthopaedic Surgery[2], University of Pittsburgh; Department of Microbiology, Immunology & Genetics[3], University of North Texas Health Science Center
141	Validating of Normothermic Oxygenated Machine Perfusion as *Ex Vivo* Platform for Murine Liver Regeneration	**Ryan Lee**[1], Joshua Badshah[1], Greta Cywińska[1], Shuling Han[1], Tetsuya Tajima[1], Pamela Emengo[2], Helene Nepomuceno[2], James Dunn[2], Jill Helms[3], Sheri Krams[1], Olivia Martinez[1], Marc Melcher[1], Varvara Kirchner[1] Departments of Abdominal Transplant Surgery[1], Pediatric Surgery[2], and Plastic & Reconstructive Surgery[3], Stanford University
142	3D Motion Analysis of Single-Leg Hop Biomechanics in Adolescent Patients After ACL Reconstruction With and Without Meniscus Repair	**Shae Lembo**[1], Jeff Morgan[1], Katelin Isakoff[1], Chao Jung Hsu[1], Deborah Callahan[1], Amishi Jobanputra[1], Molly Meadows[1], Charles Chan[1], Kevin Shea[1] Motion Analysis & Sports Performance Lab, Division of Pediatric Orthopaedics[1], Stanford University
143	Effect of Tirzepatide on Adipocyte Function and Insulin Resistance	**Calissa Leong**[1], Henry Chen[1], Alina Choi[1], Evelyn Yandle[1], Rachel Huynh[1], Ishaan Jain[1], Chun Johnston[1], Dalia Perelman[1], Tracey McLaughlin[1] Department of Endocrinology[1], Stanford University
144	BBBOpti: Molecular Optimization of Blood Brain Barrier Permeability with Machine Learning	**Alexis Li**[1], Ehsan Adeli[1] Department of Biomedical Data Science[1], Stanford University
145	Enhancing Photon Counting CT for Early Knee Osteoarthritis Detection Using the Non-Linear Partial Volume Effect: A Simulation Study	**Boyuan Li**[1], Yirong Yang[1,2], Sen Wang[1], Ethan Darwin[3], Grant Stevens[3], Marc Levenston[1,3], Adam S. Wang[1,2] Departments of Radiology[1], Electrical Engineering[2], and Mechanical Engineering[3], Stanford University; GE HealthCare[4]

146	Investigating How Smooth Represses *cdc25/twine* Translation to Delay the Meiotic Divisions in the *Drosophila* Male Germline	**Cordelia Li**[1], Catherine Baker[1], Margaret Fuller[1] Department of Developmental Biology[1], Stanford University
147	Heat-Activated TrpA1 Expression for Mapping of Insulin-Producing Cell Connectivity in *Drosophila*	**Helena Li**[1], Lutz Kockel[1], Seung Kim[2] Departments of Developmental Biology[1] and Medicine (Oncology)[2], Stanford University
148	Multiplexed and Continuous Monitoring of Metabolites Using High-Quality-Factor Metasurfaces and Modular DNA Aptamer Probes	**Yuanwei Li**[1], Darrell Omo-Lamai[1], Varun Dolia[1], Eric Sun[1], Sajjad Abdollahramezani[1], Jiyong Shim[1], Parivash Moradifar[1], Kai Chang[2], Sahil Dagli[1], Priyanuj Bordoloi[1], Jennifer A. Dionne[1,3] Departments of Materials Science & Engineering[1], Electrical Engineering[2], and Radiology[3], Stanford University
149	Multi-Dimensional Longitudinal Spatial Profiling Reveals Dynamic ART-Linked Lymphoid Tissue Remodeling in SIV Infection	**Candace C. Liu**[1], Precious Cramer[2], Chi Ngai Chan[2], Jacob D. Estes[3]*, Sizun Jiang[2]*, Michael Angelo[1]* (*joint supervision) Department of Pathology[1], Stanford University; Center for Virology & Vaccine Research (Beth Israel Deaconess Medical Center)[2], Harvard Medical School; Vaccine & Gene Therapy Institute[3], Oregon Health & Science University
150	How Does Elevated Body Temperature Impact Cognitive Performance?	**Colin Liu**[1], Vinh Cao[1], Marco Lombardo[1], Ryan Jackson[1], Tom Corbett[1], H. Craig Heller[1] Department of Biology[1], Stanford University
151	Investigating Embryonic Resilience Using Mammalian Gastruloids	**Erica Liu**[1], Marine Secchi[1], Sarah Bowling[1] Department of Developmental Biology[1], Stanford University
152	Computational Design of GPCR-Modulating Nanobodies	**Jingjia Liu**[1], Hyejin Lee[1], Po-Ssu Huang[1] Department of Bioengineering[1], Stanford University
153	Inferring Dynamic Delays Using a Sample Path Causal Measure	**Sabrina Liu**[1], Todd P. Coleman[2] Departments of Electrical Engineering[1] and Bioengineering[2], Stanford University
154	Adrenergic Neurons of the Locus Coeruleus Promote Diffuse Midline Glioma Growth	**Natalie Anne Logan**[1], Youkyeong Gloria Byun[1,2], Abigail Rogers[1], Michelle Monje[1,2] Department of Neurology & Neurological Sciences[1] and Howard Hughes Medical Institute[2], Stanford University
155	Development of Pooled Gene Perturbation and Protoplast Sorting Technologies Enable a First-In-Class, *in planta* Single-Cell Genetic Screen	**Tara N. Lowensohn**[1], Will B. Cody[2], Chun Tsai[3], and Elizabeth S. Sattely[2,3] Departments of Chemistry[1] and Chemical Engineering[2] and Howard Hughes Medical Institute[3], Stanford University
156	ProVADA: Generating Subcellular Variants via Ensemble-Guided Test-Time Steering	**Wenhui Sophia Lu**[1]*, Xiaowei Zhang[2,3]*, Santiago L. Mille-Fragoso[2,3,4], Haoyu Dai[5], Xiaojing J. Gao[2,4,5], Wing Hung Wong[1,4,6] (*equal contribution) Departments of Statistics[1], Bioengineering[2], Chemical Engineering[5], and Biomedical Data Science[6], Sarafan ChEM-H[3], and Stanford Bio-X[4], Stanford University
157	The Interdependence Between Cancer and Atherosclerosis	**Lingfeng Luo**[1,2], Changhao Fu[1,2], Richard Baylis[3], Julius Heemelaar[3], Fudi Wang[1,2], Allen Haas[4], Hanna Winter[5,6], Selena Teufel[5,6], Kevin T. Nead[7,8], Tomas G. Neilan[3], Lars Mägdefessel[5,6], Nicholas J. Leeper[1,2,9]

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158	Effects of Glucose Metabolism: Investigating Insulin Resistance and Beta-cell Function in Asians vs. Caucasians Populations	**Marjorie Rose Uy De Ong Luzuriaga**[1], Evelyn Yandle[1], Jasmine Yang[1], Rachel Huynh[1], Alina Choi[1], Nicole Turk[1], Henry Chen[1], Natesh Saini[1], Chun Johnston[1], Dalia Perelman[1], Tracey McLaughlin[1] Department of Endocrinology[1], Stanford University
159	Engineering Intercellular Mitochondrial Transfer to Enhance Energy Metabolism Via Cell Therapy	**Lorenzo Magni**[1], Xinyi Chen[1], Chris Mathy[2], Lars Steinmetz[2], Stanley Qi[1] Departments of Bioengineering[1] and Genetics[2], Stanford University
160	Investigating Sheath Glia-Mediated Regulation of Ciliary Microtubule Doublet Growth in *Caenorhabditis elegans*	**Cherise Magtoto**[1], Nabor Vasquez Martinez[1], Jessica Feldman[1] Department of Biology[1], Stanford University
161	Visualizing the Myeloid Landscape in Glioblastoma Using Novel GPR84-PET Imaging	**Piper M. Mahn**[1], Renesmee C. Kuo[2], Abraham Moses[1], Samantha T. Reyes[1], Bo Zhang[1], Mausam Kalita[1], Mira Sundar[1], Spencer H. Mak[1], Corinne Beinat[1], Michelle L. James[1,3] Departments of Radiology[1], Electrical Engineering[2], and Neurology & Neurological Sciences[3], Stanford University
162	Effectiveness of a Socially Assistive Robot Dog (Loona) for Improving Pediatric Mask Induction of Anesthesia	**Audrey Majzun**[1], Emilia Callahan[1], Luna Muhamad[1], Dina Sheira[1], Kristin Kennedy[1], Kyle Gardner[1], Astrid Suen[1], Faith Collins[1], Laura Wasserman[1], Nan Guo[1], Samuel Rodriguez[1], Thomas J. Caruso[1], Romy Yun[1] Department of Anesthesiology, Perioperative & Pain Medicine (Division of Pediatric Anesthesiology)[1], Stanford University
163	Leveraging GPR84-PET to Uncover the Spatiotemporal Dynamics of Innate Immune Activation in Murine Multiple Sclerosis	**Spencer Mak**[1], Samantha T. Reyes[1], Mausam Kalita[1], Renesmee C. Kuo[2], Mira Sundar[1], Piper Mahn[1], Jonathan Green[1], Andrew Setiadi[1], Valentina Straniero[3], Sara Marsango[4], Mallesh Pandrala[1], Noeen Malik[1], Poorva Jain[1], Lorenzo Suigo[3], Sydney C. Nagy[1], Tahlia Wu1, Ermanno Valoti[3], Graeme Milligan[4], Michelle L. James[1,5] Departments of Radiology[1], Electrical Engineering[2], and Neurology & Neurological Sciences[5], Stanford University; Department of Pharmaceutical Sciences[3], University of Milan; Centre for Translational Pharmacology[4], School of Molecular Biosciences, College of Medical, Veterinary & Life Sciences, University of Glasgow
164	Porous Scaffold Replicating Human Subretinal Pathology Enables Preclinical Testing of Prosthetic Vision	**Vladimir Mamchik**[1,2], Mohajeet B. Bhuckory[2,3], Andrew Shin[4], Keith Ly[2], Viktoryia Shautsova[4], Quentin Devaud[3], Davis Pham-Howard[2,3], Nathan Jensen[5], Roopa Dalal[2], Daniel Palanker[2,3] Departments of Biology[1], Ophthalmology[2], Materials Science & Engineering[4], and Electrical Engineering[5]

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165	Engineering Bioactive Nerve Guidance Conduits to Restore Optic Connectivity in Whole Eye Transplantation	**Alyssa Manche**[1], Kyeongwoo Jang[1], David Myung[1] Department of Ophthalmology[1], Stanford University
166	Gastric-Organoid Olympics: 3D *In Vitro* Directed Evolution of Human Gastric Epithelium to Malignancy	**Sienna Martinez**[1], Debra Van Egeren[1,2], Rekha Nagarajan[1], Gabriella Reynolds[2], Christina Curtis[1,2,3,4] Stanford Cancer Institute[1] and Departments of Genetics[2], Medicine (Division of Oncology)[3], and Biomedical Data Science[4], Stanford University
167	Calcineurin/ERK Antagonism Regulates Nuclear Import and Export	**Jaston B. McClure**[1], Sneha Roy[1], Richard J. Smith[1], Martha S. Cyert[1] Department of Biology[1], Stanford University
168	Personalized CT Organ Dose Estimation from Scout Images	**Maria Jose Medrano**[1], Abdullah-Al-Zubaer Imran[1], Sen Wang[1], Grant Stevens[2], Justin Ruey Tse[1], Adam Wang[1,3] Departments of Radiology[1] and Electrical Engineering[3], Stanford University; GE HealthCare[2]
169	Spatial and Temporal Profiling Identifies Molecularly Distinct Pulmonary Neuroendocrine Cells During Development	**Massiel Melian**[1], Helen Yue Zhang[1], Christin Kuo[1] Department of Pediatrics[1], Stanford University
170	Isolating Radiation Damage Effects in Cryogenic Electron Microscopy of Biomolecules	**Charlotte Meredith**[1,2,3], Rachael C. Kretsch[4], Yan Liu[3], Muyuan Chen[3], Wah Chiu[3,4,5,6] Department of Molecular & Cell Biology[1] and Innovative Genomics Institute[2], University of California Berkeley; Division of CryoEM & Bioimaging, SSRL[3], SLAC National Accelerator Laboratory; Biophysics Program[3] and Departments of Bioengineering[5] and Microbiology & Immunology[6], Stanford University
171	Understanding Gene Dosage Response Curves in Human Complex Traits	**Nikhil Milind**[1], Courtney J. Smith[1], Huisheng Zhu[2], Tami Gjorgjieva[1], Jeffrey P. Spence[1,3,4], Jonathan K. Pritchard[1,2] Departments of Genetics[1] and Biology[2], Stanford University; Institute for Human Genetics[3] and Epidemiology & Biostatistics[4], University of California San Francisco
172	A Pinch of Culture, A Dash of Science: Developing Culturally-Tailored Diabetes-Focused Meal Plans for Asian Indian and Filipino Subgroups for a Pilot Intervention	**Minal Moharir**[1], Saakshi Arvikar[1], Mehek Parghi[1], Sania Srivastava[1], Stephanie Ibe[1], Jared E. Yalung[1], Linda Koh[2], Richard Wittman[1] Department of Medicine (Division of Primary Care & Population Health)[1], Stanford University; University of Massachusetts Amherst[2]
173	Immunohistochemical Evidence of P. gingivalis in Glioblastoma Multiforme (GBM) Brain Samples: Experimental Investigation to Determine Effect on GBM Disease Progression	**Ella Moore**[1], Laurent A. Bekale[1,2], Jing Chen[1], Florian Ermini[1], Stephen Dominy[1], Annelise E. Barron[1] Departments of Bioengineering[1] and Otolaryngology[2], Stanford University
174	Designing Demographically Informed Priors for Bayesian Inference in Cardiovascular Simulations	**Nathalie Moreno**[1], Parker Ruth[1], James Landay[1], Alison Marsden[2] Departments of Computer Science[1] and Pediatrics (Cardiology)[2], Stanford University

175	Mixture of Synthesized Helicene Stereoisomers Assembles Swiftly into Hierarchical Ribbons via Supramolecular Sheets	**Rachael K. Mow**[1], Nathaniel J. Schuster[2], Hao Lyu[2], Max Schrock[1], Ruiheng Wu[2], Yilei Wu[2], Song Zhang[2], Xi Jiang[3], Zhenan Bao[2] Departments of Chemistry[1] and Chemical Engineering[2], Stanford University; Materials Sciences Division[3], Lawrence Berkeley National Laboratory
176	Using iPSC-Derived Human and Chimpanzee Arterial Endothelial Cells to Explore Human Susceptibility to Atherosclerosis	**Jeffrey Naftaly**[1], Alex Starr[1], Hunter Fraser[1], Kristy Red-Horse[1,2] Department of Biology[1], Stanford University; Howard Hughes Medical Institute[2]
177	Adrenomedullin Restores Mitochondrial and Neuronal Function in Human Cellular Models of 22q11.2DS	**Dhriti Nagar**[1], Jongbin Choi[1], Zunsong Hu[2], Seyeon Park[1], Meghali Aich[1], Bailey Abel[1], Madison House[1], Li Li[1], Zhaohui Gu[2], Anca M. Pașca[1] Department of Pediatrics[1], Stanford University; Department of Computational & Quantitative Medicine[2], Beckman Research Institute
178	MRI-Based Pressure Gradient Mapping in Patients with Aortic Coarctation	**Priya J. Nair**[1], Michael Loecher[2], Lorenzo Ferrari[3], Doff B. McElhinney[3], Alison L. Marsden[4], Daniel B. Ennis[2] Departments of Bioengineering[1], Radiology[2], Cardiothoracic Surgery[3], and Pediatric Cardiology[4], Stanford University
179	Mapping Somatic Variant Gradients to Seizure-Onset in Various Etiologies of Pediatric Drug-Resistant Epilepsy	**Nishanth Narayan**[1], Olubunmi A. Fariyike[1,2], Minye Zhou[3], Yingmei Li[1], Danielle R. Sanchez[1,4], August Yue Huang[5,6,7], Vivek Buch[2], Kelly B. Mahaney[1,8], Laura M. Prolo[1,8], Brenda E. Porter[9], Ann Hyslop Segeren[9], William B. Gallentine[9], H. Westley Phillips[1,8]* (*corresponding author) Department of Neurosurgery[1], School of Medicine[2], and Child Neurology[9], Stanford University; Harvard T. H. Chan School of Public Health[3] and Department of Pediatrics[6], Harvard University; University of California Davis[4]; Division of Genetics & Genomics[5], Manton Center for Orphan Disease Research, Boston Children's Hospital; Broad Institute of MIT & Harvard[7]; Division of Pediatric Neurosurgery[8], Lucile Packard Children's Hospital
180	A Lung Tumor-on-a-Chip Model Recapitulates the Effect of Hypoxia on Radiotherapy Response and FDG-PET Imaging	**Rohollah Nasiri**[1], Myra Kurosu Jalil[2], Veronica Ibanez Gaspar[1], Andrea Sofia Flores Perez[3], Hieu Thi Minh Nguyen[1], Syamantak Khan[1], Sindy K.Y. Tang[2], Yunzhi Peter Yang[3], Guillem Pratx[1] Departments of Radiation Oncology[1], Mechanical Engineering[2], and Bioengineering[3], Stanford University
181	*Plasmodium falciparum* Exploits NUAK1 to Establish Infection in Human Erythrocytes	**Daniel J. Navarrete**[1,2], Chi Yong Kim[2], Mario Gonzalez Ramirez[2], Barbara Baro[2], Christian Doerig[3], Shao-En Ong[4], Martin Golkowski[4,5,6], Elizabeth S. Egan[1,2,7] Departments of Microbiology & Immunology[1] and Pediatrics[2], Stanford University; School of Health & Biomedical Sciences[3], Royal Melbourne Institute of Technology; Department of Pharmacology[4], University of Washington; Department of Pharmacology & Toxicology[5] and Huntsman Cancer

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182	Correlation of IL-6, TNF-α, and IL-1**β** with Hemoglobin in Mouse Model of Diamond-Blackfan Anemia	**Nicholas Neoman**[1], Aya Shibuya[1], Y. Lucy Liu[1], Kathleen Sakamoto[1] Department of Pediatrics (Division of Hematology/Oncology)[1], Stanford University
183	Advancing Real-Time ECG Analysis Through an Open-Source, FHIR-Compliant Ecosystem with Preliminary CNN-Based Pathology Detection	**Sean Nesamoney**[1], Paul Schmiedmayer[3], Aydin Zahedivash[3], Oliver Aalami[2], Joshua Makower[1] Departments of Bioengineering[1] and Surgery[2] and Mussallem Center for Biodesign[3], Stanford University
184	Tear Proteomics: Diagnostic Reservoir for Ocular Surface Oncology	**Gia-Han Ngo**[1], Madhumeeta Chadha[1], Young Joo Sun[1], Gina Yu[1], Soo Hyeon Lee[1], Gabriel Velez[1], Antoine Dufour[3], Alexander G. Bassuk[4], Prithvi Mruthyunjaya[1], Vinit B. Mahajan[1,2] Molecular Surgery Laboratory, Byers Eye Institute, Department of Ophthalmology[1], Stanford University; VA Palo Alto Health Care System[2]; Departments of Physiology and Pharmacology & Biochemistry and Molecular Biology[3], University of Calgary; Department of Pediatrics[4], University of Iowa
185	Ultra-Sensitive Tracking of Single Cells Using Whole-Body PET/CT	**Hieu T.M. Nguyen**[1], Neeladrisingha Das[1], Xiaoxu Zhong[1], Eri Takematsu[2], Yuting Wang[2], Charles K.F. Chan[2], Guillem J. Pratx[1] Departments of Radiation Oncology & Medical Physics[1] and Surgery[2], Stanford University
186	Development of a Patient-Derived Bone Marrow Organoid Model System to Study the Leukemia-Specific Microenvironment	**Vivian Nguyen**[1], Jared Wallace[2], Calvin Kuo[3] Departments of Human Biology[1], Medical Oncology (Division of Hematology)[2], and Hematology[3], Stanford University
187	Interactive Exploration of Noncoding Variants Through LLM Agents	**Angel Ochoa Rodriguez**[1], Riya Sinha[1], Jesse Engreitz[1] Department of Genetics[1], Stanford University
188	Control Cost of Brain Activity During Cognition Associated with Task Performance	**Daniel Ogunbamowo**[1], Manish Saggar[2] Departments of Psychology[1] and Psychiatry & Behavioral Sciences[2], Stanford University
189	The Role of NAD^+ Kinase 1 in Innate Immunity Against the Bacterial Pathogen *Xanthomonas euvesicatoria*	**Gavin Oh**[1], Victoria Martinez-Aranda[1], Steven Massa[1], Jung-Gun Kim[1], Mary Beth Mudgett[1] Department of Biology[1], Stanford University
190	AdarEdit: A Graph Foundation Model for Interpretable A-to-I RNA Editing Prediction	Zohar Rosenwasser[1], Erez Y. Levanon[1], Michael Levitt[2], **Gal Oren**[2,3] Faculty of Life Sciences[1], Bar-Ilan University; Department of Structural Biology[2], Stanford University; Department of Computer Science[3], Technion
191	Flex-Trac	**Bianca Lorraine Osterling**[1], Matthew Chan[1], Ethan C. Darwin[1], Adam S. Wang[2,3], Marc E. Levenston[1,2] Departments of Mechanical Engineering[1], Radiology[2], and Electrical Engineering[3], Stanford University
192	Metasurface Oligonucleotide Synthesizer for Engineered Biology	**Punnag Padhy**[1], Varun Dolia[1], Darrell Omo-Lamai[1], Jennifer Dionne[1] Department of Materials Science & Engineering[1], Stanford University

193	Functional Advantages of EPC-Derived Mitochondria-Rich EVs: A Case for Universal Bioenergetic Therapy	**Amogha Paleru**[1], Eileen Tzng[1], Jiwen Li[1], Mariko Ieki[1], Yuka Matsuura[1], Gentaro Ikeda[1], Phillip C. Yang[1] Stanford Cardiovascular Institute[1], Stanford University
194	Circadian Regulation of Radiation Response in Pediatric High-Grade Gliomas	**Sanjay Palta-Hill**[1], Billy Nguyen[1], Laura Prolo[1] Department of Neurosurgery[1], Stanford University
195	Promoting Endothelial Cell Differentiation via Localized Delivery in Cardiac Organoids	**Marta Pambukhchyan**[1], Danielle Klinger[2], Maya Tarek-Elkadi[1], Jianye Du[2], Jeffrey Naftaly[1], Stacey Lee[2], Tony Tam[2], Casey Gifford[3], Mark Skylar-Scott[2], Kristy Red-Horse[1] Departments of Biology[1], Bioengineering[2], and Genetics[3], Stanford University
196	Genetic Inhibition of FTO Does Not Exacerbate the Severity of Radiation-Induced Oral Mucositis in C57BL/6 Mice	**Margaret Pan**[1,2], Leighton Pu[1], Stavros Melemenidis[1], Ted Graves[1], Kerriann Casey[2], Erinn Rankin[1] Departments of Radiation Oncology[1] and Comparative Medicine[2], Stanford University
197	Electrical Stimulation of the Human Mediodorsal Nucleus of the Thalamus	**Sofia Pantis**[1], Dian Lyu[1], Masaya Togo[1], Julian Quabs[1], Weichen Huang[1], Aidan Chan[1], Mina Fedor[1], Josef Parvizi[1,2] Department of Neurology & Neurological Sciences (Laboratory of Behavioral & Cognitive Neuroscience)[1] and Wu Tsai Neurosciences Institute[2], Stanford University
198	Whole-Genome 3D Architectural Screen with In-Plate Chromosome Conformation Capture (Plate-C) Reveals Determinants of Brain DNA Structure *in vivo*	**Bibudha Parasar**[1], Achuthan R. Venkatesh[1,2]*, Lucas Sosnick[1,3]*, Siavash Moghadami[1,4], Yunji Seo[1], Jenny Shi[1], Lynette Chan[1,2], Angela Hadjipanayis[5], Longzhi Tan[1] (*equal contribution) Departments of Neurobiology[1], Biophysics[2], Bioengineering[3], and Chemical & Systems Biology[4], Stanford University; Precision Medicine & Computation Biology[5], Sanofi
199	Small Molecule Inhibition of ATF6 Alleviates Retinal Neovascularization	**Soyoung Park**[1,2], Angela Galdamez[1,2], Allyssa Bradley[1,2], Masako Le-Maciukiewicz[1,2], Will Temme[1,2], Leon Chea[1,2], Ethan Stevenson[1,2], Eun Jin Lee[1,2], Jonathan Lin[1,2] Department Pathology[1], Stanford University; VA Palo Alto Healthcare System[2]
200	Rhizo-PET: 4D PET System for Analyzing Carbon Dynamics in the Rhizosphere	**Wonu Park**[1], Muhammad Nasir Ullah[1], Daniel Hastings[1], Craig Levin[1] Department of Radiology[1], Stanford University; Department of Environmental Science[2], University of California Santa Cruz
201	Tuneable Size Polyacrylonitrile Flowers via Simple and Scalable Free Radical Precipitation Polymerization	**Kostas Parkatzidis**[1]*, Diego Uruchurtu Patino[1]*, Yuran Shi[2], Ines Weber[1], Kuang-Jung Hsu[1], Hyun Suk Wang[3], Zhenan Bao[1] (*equal contribution) Departments of Chemical Engineering[1] and Chemistry[2], Stanford University; Department of Materials[3], ETH Zurich
202	Patient-Specific Neuroepithelial Organoids in Synthetic Hydrogels Reveal Early Neural Fate Dynamics	**Kristine P. Pashin**[1,4], Michelle S. Huang [2,3], Vanessa M. Doulames[4,5], Meghan E. Hefferon[4,5], Sarah C. Heilshorn[4]

		Departments of Symbolic Systems[1], Chemical Engineering[2], Materials Science & Engineering[4], and Neurosurgery[5] and Sarafan ChEM-H[3], Stanford University
203	PLA2G15 Is a BMP Hydrolase, and Its Targeting Ameliorates Lysosomal Disease	Kwamina Nyame[3], Jian Xiong[1], Hisham N. Alsohybe[4], Arthur P. H. de Jong[6], **Isabelle V. Peña**[5], Ricardo de Miguel[6], Thijn R. Brummelkamp[6], Guido Hartmann[6], Sebastian M. B. Nijman[6], Matthijs Raaben[6], Judith A. Simcox[6], Vincent A. Blomen[6], Monther Abu-Remaileh[1,2] Departments of Chemical Engineering[1], Genetics[2], Biochemistry[3], Biophysics[4], and Chemistry[5], Stanford University; Scenic Biotech[6]
204	A Mutual Information Measure of Phase-Amplitude Coupling	**Andrew S. Perley**[1], Todd P. Coleman[1] Department of Bioengineering[1], Stanford University
205	Probing Microscopic Marine Organisms through Custom Microscopes	**Enrico Piperno**[1], Manu Prakash[2] Departments of Applied Physics[1] and Bioengineering[2], Stanford University
206	Stanford Center for Innovation in *In Vivo* Imaging SC*i*[3]	**Laura Pisani**[1], Lisa Evans[2], Frezghi Habte[2] Department of Radiology[1] and School of Medicine[2], Stanford University
207	A Nanobody-Based Platform for the Selective Depletion of the Lamin B Receptor	**Timothy Precord**[1], Aidan Cabral[2], Sebastian Alfonso[1], Hawa Racine Thiam[2,3], Laura Dassama[1,3] Departments of Chemistry[1], Bioengineering[2], and Microbiology & Immunology[3], Stanford University
208	Gastronomy-Driven Upcycling of Food Sidestreams via *Neurospora intermedia* Fermentation	**Anna-Katharina Preidl**[1], Alessandra Massa[2], Vayu Hill-Maini[1] Department of Bioengineering[1], Stanford University; Gastronomic Sciences[2], Basque Culinary Center
209	Food is Medicine for Patients with Heart Failure: Pilot Study	**Vera Prokopieva**[1], Dalia Perelman[1], Andrea Krenek[1], Valerie Mercer[2], Roujheen Sabetan[1], Jennifer Robinson[1], Cheryl Anderson[2], Christopher Gardner[1] Nutrition Studies Research Group, Stanford Prevention Research Center[1], Stanford University; Herbert Wertheim School of Public Health & Human Longevity Science[2], University of California San Diego
210	Longitudinal Diabetes and Microbiome Dynamics in the iPOP Study 2012-2024	**Vera Prokopieva**[1], **Tyler Yang**[2,3], Andrew Wallace Brooks[3], Michael Snyder[3] Prevention Research Center[1] and Departments of Computer Science[2] and Genetics[3], Stanford University
211	Identification of Magnesium Sulfate as a Neuroprotective against Neonatal Hypoxic Brain Injury Using Human Cortical Organoids	**Alyssa Puno**[1], Estefany Velasquez[2], Ahmad Ebtikar[1], Yusuke Hori[3], Jong Bin Choi[1], Saw Htun[1], Seyeon Park[1], Anca M. Pasca[1] Departments of Pediatrics[1], Bioengineering[2], and Neurosurgery[3], Stanford University
212	Evolution of Nonmonotonic Viscous Moduli During the Formation of Polymer Hydrogels	**Eleanor L. Quirk**[1], Jiachun Shi[2], Simon A. Rogers[2], Danielle J. Mai[1] Department of Chemical Engineering[1], Stanford University; Department of Chemical & Biological Engineering[2], University of Illinois Urbana-Champaign

213	Changes in Excitatory and Inhibitory Synapses Across Development in Human Pediatric Brain Tissue	**Nivetha S. Ramasamy**[1], Kristina D. Micheva[1], Gerald A. Grant[1,2], H. Westley Phillips[1], Vivek P. Buch[1], Kelly B. Mahaney[1], Laura M. Prolo[1], Scott F. Owen[1] Department of Neurosurgery[1], Stanford University; Department of Neurosurgery[1], Duke University
214	Simultaneous EEG-EGG Recordings Reveal Dynamic Stomach-Brain Coupling Across Non-REM Sleep	**Akshita A. Rao**[1], Martin Dresler[2], Sarah F. Schoch, Todd P. Coleman[1] Department of Bioengineering[1], Stanford University; Donders Institute for Brain, Cognition & Behaviour[2], Radboud University Medical Center
215	Novel SOX10 Indel Mutations Drive Schwannomas through Impaired Transactivation of Myelination Gene Programs	**Ajay Ravindranathan**[1], **Mianmian Yin**[1], Erik A. Williams[2], Rohit Gupta[1], Nicholas O. Stevers[3], Abigail K. Suwala[3], Chibo Hong[3], Somang Kim[4], Jimmy Bo Yuan[4], Jasper Wu[2], Jairo Barreto[2], Line Jacques[3], Thomas J. Wilson[5], Jun S. Song[4], Joseph F. Costello[3], David A. Solomon[1] Departments of Pathology[1] and Neurosurgery[5], Stanford University; Departments of Pathology[2] and Neurological Surgery[3], University of California San Francisco; Department of Physics & Carl R. Woese Institute for Genomic Biology[4], University of Illinois Urbana-Champaign
216	Targeting of *P. falciparum* Lipid Transporter NCR1 is Facilitated by a Domain Containing Amphipathic a-Helices and a Non-Structured Linker	**Ananya Ray**[1,2], Eva Istvan[3], Daniel Goldberg[3], Matthias Garten[1,2] Departments of Bioengineering[1] and Microbiology & Immunology[2], Stanford University; Department of Molecular Microbiology[3], Washington University School of Medicine
217	A Proteomics Toolbox for Deciphering the Effects of GPCR Gene Variation in Neurons	**David Reiner-Link**[1,2], Ruth Hüttenhain[1] Department of Molecular & Cellular Physiology[1], Stanford University; Department of Drug Design & Pharmacology[2], University of Copenhagen
218	Biological Design Meets Digital Logic: Synthetic Biology at Moore's Scale	**Bijie Ren**[1,2], Xiang Li[1], Rongze Zeng[1], Huixin Zeng[1], Kenneth Ho Yu Zhang[1], Devaki Bhaya[1,3], Zhiyong Wang[1,3], John Pringle[4], Arthur Grossman[1,3] The Carnegie Institution for Science (Biosphere Sciences & Engineering)[1] and Departments of Biology[3] and Genetics[4], Stanford University; Satori Institute of Chaos[2]
219	Impact of Alternative Splicing on Arabidopsis Proteome	**Andres V. Reyes**[1], Sumudu Karunadasa[1], Shane Carey[1], Ruben Shrestha[1], Shou-Ling Xu[1] Department of Plant Biology[1], Carnegie Institution for Science, Stanford University
220	Imaging the Invisible: Whole-Body PET/MRI of ME/CFS Patients Indicates Alterations in TSPO-Positive Cells and Mitochondrial Bioenergetics in Muscles and Brain	**Samantha Reyes**[1], **Mira Sundar**[1], Maya Cooper[1], Victor Hvingelby[1], Tullia Lieb[1], Isabelle Hack[1], Meghan Bell[1], Bo Zhang[1], Jun-Hyung Park[1], Renesmee Kuo[2], Jonathan Green[1], Dawn Holley[1], Andrew Dreisbach[1], Guido Davidzon[1], Hector Bonilla[3], Emily M. Deal[1], Michelle L. James[1,4] Departments of Radiology[1], Electrical Engineering[2], Infectious Diseases[3], and Neurology & Neurological Sciences[4], Stanford University
221	Cavity-Enhanced Stimulated Raman Scattering Microscopy for Quantum-Optimal Bioimaging	**Joshua Reynolds**[1], Shaun Burd[1], Tzu-Chieh Yen[2], Samsuzzoha Mondal[3], Soichi Wakatsuki[3], Mark Kasevich[1,2]

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222	Multi-Pass Transmission Electron Microscopy	**Joshua Reynolds**[1], Tzu-Chieh Yen[2], Marian Mankos[3], Mark Kasevich[1,2] Departments of Applied Physics[1] and Physics[2], Stanford University; Electron Optica[3]
223	Monitoring the Presence and Quality of Respiratory Airflow	**Jairo Reynoso**[1], Katie Pieschiala[1], Aayush Vemuri[1], Rob Modeste[1], Matt Wright[1], Chris Chafe[1], Matthew Muffly[2] Center for Computer Research in Music & Acoustics[1] and Department of Anesthesiology, Perioperative & Pain Medicine[2], Stanford University
224	Unlocking Hidden Biomolecular Conformational Landscapes in Diffusion Models at Inference Time	**Daniel D. Richman**[1], Jessica Karaguesian[2], Carl-Mikael Suomivuori[3], Ron O. Dror[1,4] Departments of Computer Science[1], Bioengineering[2], and Molecular & Cellular Physiology[4], Stanford University; Department of Pharmacology[3], Yale University
225	Cortical Brain Structures in Adults with Down Syndrome	**Cassandra Rivero**[1], Grace Bishay[1], Jennifer Bruno[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
226	Perception vs. Reality: Uncovering the Alignment of Balance Confidence and Balance Performance in a High-Variance Population	**Ariana Rodrigues**[1], Hannah Heigold[1], Scott Delp[1] Department of Bioengineering[1], Stanford University
227	Follow Your Nose! Olfactory-Based Caregiver Recognition in Poison Frog Tadpoles	**Vanessa Rodriguez**[1], Jailah Mitchell[1], Adithi Rao[1], Maren Rudolph[1], Najva Akbari[1], Lauren O'Connell[1] Department of Biology[1], Stanford University
228	Making Sense of the GPCRs That Grant *C. elegans* the Ability to Sniff Out Valproic Acid	**Lucero E. Rogel-Hernandez**[1], Emily Fryer[1], Helena Casademunt[2,3], Hanson Lu[2,3], Aravinthan Samuel[2,3], Miriam B. Goodman[1] Department of Molecular & Cellular Physiology[1], Stanford University; Department of Physics[2] and Center for Brain Science[3], Harvard University
229	Extended Amygdala Vipr2 Neuronal Circuitry Characterization and Excitatory Chemogenetic Modulation in Feeding Behavior	**Ethan T. Rogers**[1,2], Isaac F. Kandil[1,2], Allison R. Morningstar[1,2], Haniyyah Sardar[1,2], William J. Giardino[1,2] Wu Tsai Neurosciences Institute[1] and Department of Psychiatry & Behavioral Sciences[2], Stanford University
230	Design of a Modular Inducible Circuit for Pulsatile Population Control of Engineered Bacteria	**Rohita Roy**[1], Michaëlle N. Mayalu[1]* (*corresponding author) Department of Mechanical Engineering[1], Stanford University
231	Diet, Chemotherapy, and Neuropathy: Investigating Shared Molecular Pathways in a *C. elegans* Model	**Manuel Axel Ruiz**[1], Hongfei Ji[1], Chandni Jaisinghani[1], Caroline Arellano-Garcia[1], Miriam B. Goodman[1] Department of Molecular & Cellular Physiology[1], Stanford University
232	Increased Prevalence of Psychiatric Disorders in Children with RASopathies: Comparing NF1, Noonan Syndrome Spectrum Disorder, and the General Population	**Odeya Russo**[1], Yaffa Serur[1], Chloe A. McGhee[1], Tamar Green[1] Department of Psychiatry & Behavioral Sciences (Division of Interdisciplinary Brain Sciences)[1], Stanford University

233	Advancing the Understanding of Physiological Effects of Topical Treatments and their Role on Sensorial Perception of Human Skin	**Rachele Pia Russo**[1], Ashley David[1], Derrick Chen[1], Reinhold H. Dauskardt[1] Department of Materials Science & Engineering[1], Stanford University
234	Non-Invasive Quantification of Fluorescent Reporter in Urine to Assess Tumor Growth	**Brooke Ruszkiewicz**[1], Sophie S. Jang[1], Konstantina M. Stankovic[1] Department of Otolaryngology-Head & Neck Surgery[1], Stanford University
235	Single-Molecule Investigation of DNA Interrogation by an Ancestral RNA-Guided Nuclease	**Iren Saffarian-Deemyad**[1], Zehan Zhou[2], Kevin Daniel Palacio Aris[3], Honglue Shi[2], Noor Al-Sayyad[1], Jennifer Doudna[2], Zev Bryant[4] Departments of Physics[1], Biophysics[3], and Bioengineering[4], Stanford University; Department of Molecular & Cell Biology[2], University of California Berkeley
236	The MIRO1-BAX Complex Dictates Life or Death at the Mitochondrial Gate	**Alva G. Sainz**[1], Sajad Bhat[1], Chulhwan S. Kwak[1], Kwang Bog Cho[1], Brandon H. Bergsneider[1], Aarooran S. Durairaj[1], Anthony Venida[2], **Sejal A. Sripadanna**[1], **Zoe Zizzo**[1], Zehui Du[1], Michael Lim[1], Michael Bassik[2], Xinnan Wang[1] Departments of Neurosurgery[1] and Genetics[2], Stanford University
237	A Principled Comparison of Static and Dynamic Models of Subjective Value in Choices-under-Risk	**Gustavo X. Santiago-Reyes**[1], Russell Poldrack[2] Departments of Bioengineering[1] and Psychology[2], Stanford University
238	Isoxazolidine Cross-Coupling for the Total Synthesis of Zetekitoxin AB	**Max Scherer**[1], Christopher Codogni[1], Justin Du Bois[1] Department of Chemistry[1], Stanford University
239	Dynamics of Hippocampal Axo-Axonic Cells in Temporal Lobe Epilepsy	**Eliza Schnitzer**[1], Shreya Malhotra[1], Annie Goettemoeller[1], Peter Klein[1], Robert Lupoiu[1,2], Fraser Sparks[3], Attila Losonczy[4,5], Ivan Soltesz[1] Departments of Neurosurgery[1] and Electrical Engineering[2], Stanford University; Regeneron[3]; Department of Neuroscience[4] and Mortimer B. Zuckerman Mind Brain Behavior Institute[5], Columbia University
240	Asymmetric Ether Solvents for High-Rate Lithium Metal Batteries	**Aditya Shah[1]**, Rok Choi[1,2], Yi Cui[2], Zhenan Bao[1], Jian Qin[1] Departments of Chemical Engineering[1] and Materials Science & Engineering[2], Stanford University
241	Nanoparticle Delivery of Cyclosporine A Ameliorates Ischemia-Reperfusion Injury After Cardiac Transplantation	**Akash Shah**[1], Yujiro Kawai[1], Jayakumar Rajadas[2], Yasuhiro Shudo[1] Division of Cardiothoracic Surgery[1] and Stanford Cardiovascular Institute[2], Stanford University
242	Can Tractography Predict Electrophysiological Connectivity?	**S. Shailja**[1], Dian Lyu[2], Gustavo Chau Loo Kung[3], Leili Mortazavi[4], Erpeng Dai[1], Vivek P. Buch[5], Karl Deisseroth[3], Josef Parvizi[2], Jennifer A. McNab[1] Departments of Radiology[1], Neurology & Neurological Sciences[2], Bioengineering[3], Psychology[4], and Neurosurgery[5], Stanford University
243	Additive Manufacturing of High-Resolution Porous Tubes, Tube Networks, and Lattices Enabled by Fluid Mechanics	**Vedika J. Shenoy**[1], Philip R. Onffroy[1], Ian A. Coates[1], Maria T. Dulay[2], Eric S.G. Shaqfeh[1,3], Joseph M. DeSimone[1,2,4,5]

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244	Mechanosensitive Polymer Matrices of Biologically-Relevant Compliance Based on Upconverting Nanoparticles	**Cindy Shi**[1], Mia Cano[2], Jason Casar[1], Parivash Moradifar[1], Beatriz Robinson[3], Julia A. Kaltschmidt[4], Miriam B. Goodman[5], Jennifer Dionne[1] Departments of Materials Science & Engineering[1], Physics[2], Neuroscience[3], Neurosurgery[4], and Cell Biology[5], Stanford University
245	Distinct Genomic Landscape of HIV-Associated Lymphomas Identified by Integrated Noninvasive Host and Virome Profiling	**Shuyu Shi**[1,3], Kathryn Lurain[2], Joseph Schroers-Martin[3], Andrea Garofalo[3], Jurik A. Mutter[3], Takeshi Sugio[3], Soyeong Jun[5], George Crowley[1], Madhav Mantri[1], Douglas Henze[1], Xiaoman Kang[3], Feng Tian[3], Chih Long Liu[3], Mari Olsen[3], Wyndham Wilson[4], Maximilian Diehn[5], Mark Roschewski[4], Stephen R. Quake[1], Ash A. Alizadeh[3] Departments of Bioengineering[1], Medicine[3], and Radiation Oncology[5], Stanford University; HIV & AIDS Malignancy Branch[2] and Lymphoid Malignancies Branch[4], Center for Cancer Research, National Cancer Institute, National Institutes of Health
246	Multidirectional Alignment of Collagen Fibers to Guide Cell Orientation in 3D-Printed Tissue	**Diya Singhal**[1], Fotis Christakopoulos[2], Lucia G. Brunel[1], Suraj Borkar[1], Vanessa M. Doulames[2], David Myung[3], Gerald G. Fuller[1], Sarah C. Heilshorn[2] Departments of Chemical Engineering[1], Materials Science & Engineering[2], and Ophthalmology (Byers Eye Institute)[3], Stanford University
247	Pediatric Fracture Healing from Skeletal Perspective: Pediatric Fracture Hematoma Contains a Higher Frequency of Skeletal Stem Cells with a Greater Osteogenic Capacity	*Presented by* **Arianne Salunga**[1] on behalf of the team: Kira Skaggs[1], Chao Ma[1], Stephanie T. Kha[1], John S. Vorhies[1], Stuart B. Goodman[1], Lawrence H. Goodnough[1] Department of Orthopaedic Surgery[1], Stanford University
248	Transcranial Photobiomodulation for Enhancing Glymphatic Clearance in Alzheimer's Disease	**Kenneth Nathanael Sarip**[1], Ali Rahimpour Jounghani[1], S.M. Hadi Hosseini[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
249	Evaluating Near-Infrared Spectroscopy for Non-Invasive Monitoring of Cerebrospinal Fluid Dynamics in the Glymphatic System	**Kenneth Nathanael Sarip**[1], **Ali Rahimpour Jounghani**[1], S.M. Hadi Hosseini[1] Department of Psychiatry & Behavioral Sciences[1,] Stanford University
250	Molecularly Informed Analysis of Histopathology Images Using Natural Language	**Moritz Schaefer**[1,2]*, Kalin Nonchev[3]*, Animesh Awasthi[1,2]*, Jake Burton[1,2]*, Viktor H. Koelzer[4,5], Gunnar Rätsch[3†], Christoph Bock[1,2†] (*equal contribution; †equal supervision) Institute of Artificial Intelligence, Center for Medical Data Science[1], Medical University of Vienna; CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences[2]; Institute for Machine Learning, Department of Computer Science[3], ETH Zurich; Institute of Medical Genetics & Pathology Group[4], University Hospital of Basel; Computational & Translational Pathology Group, Department of Biomedical Engineering[5], University of Basel

251	Macromolecular Analysis at the Nucleus at Sarafan ChEM-H	**Dina Schuster**[1], **Olivia Pattelli**[2], Daniel Fernandez[2] Chemoproteomics[1] and Macromolecular[2] Structure Group, Nucleus at Sarafan ChEM-H, Stanford University
252	Towards a Universal Genetic Toolkit in Mushroom-Forming Fungi	**Shahar Schwartz**[1], Peter Allen[2], Deniz Sinar[1], Adrian Enrique Gadar Lopez[3], Shreya Garg[1], Jaqueline Gerhardt[1], Vayu-Hill Maini[1] Departments of Bioengineering[1] and Biology[2], Stanford University; Novo Nordisk Foundation Center for Biosustainability[3], Technical University of Denmark
253	Hot Spring Viral Hosts Uncovered by Long Read and Proximity Metagenomics	**Amanda Shelton**[1], Daniel Portik[2], Devaki Bhaya[1] The Carnegie Institution for Science (Biosphere Sciences & Engineering)[1], Stanford University; Pacific Biosciences[2]
254	R-Loop Mediated Regulation of Gene Transcription in the Retina	**Rincheen Sherpa**[1], Shruti Singh Kakan[1], Ximena Corso-Diaz[1] Byers Eye Institute, Department of Ophthalmology[1], Stanford University
255	Finding Clarity in Alzheimer's Brains – Whole-Brain Spatialized Tau Staining in PS19 Mice	**Sunstone Shi**[1], Marika Ruiyao Cai[2], Wei Wang[1], Yanmin Yang[1] Department of Neurology & Neurological Sciences[1] and Cell Sciences Imaging Facility[2], Stanford University
256	Defects in Exosome Biogenesis Are Associated with Sensorimotor Defects in Zebrafish *vps4a* Mutants	**Anna Shipman**[1], Yan Gao[1], Peng Sun[1], Eliot T. Smith[1], Tim Erickson[2], Teresa Nicolson[1] Department of Otolaryngology - Head & Neck Surgery[1], Stanford University; Department of Biology[2], University of New Brunswick
257	Nonsense-Mediated Decay Masks Cryptic Splicing Events Caused by TDP-43 Loss	**Odilia Sianto**[1], Yi Zeng[1,2], Anastasiia Lovchykova[1], Chang Liu[1], Tetsuya Akiyama[1], Leonard Petrucelli[3,4], Aaron D. Gitler[1,2,5] Department of Genetics[1] and The Phil & Penny Knight Initiative for Brain Resilience[2], Stanford University; Department of Neuroscience[3] and Neuroscience Graduate Program[4], Mayo Clinic; Chan Zuckerberg Biohub[5]
258	Magnetic Milli-Spinner for Robotic Endovascular Surgery	Shuai Wu[1], Yilong Chang[1], Sophie Leanza[1], **Jay Sim**[1], Lu Lu[1], Qi Li[1], Diego Stone[1], Ruike Renee Zhao[1] Department of Mechanical Engineering[1], Stanford University
259	Size-Specific Isolation and Profiling of Extracellular Vesicles for an Atlas of Proteomic and Transcriptomic Cargo in Prostate Cancer	**Prima Dewi Sinawang**[1,2,3], Fernando J. Garcia-Marques[3], David Fernandez-Martinez[4], Demir Akin[2,3], Abel Bermudez[3], Emily Ding[2,3], Manish Kohli[5], Sharon J. Pitteri[3], Utkan Demirci[2,3]* (*corresponding author) Departments of Chemical Engineering[1] and Radiology (BAMM Laboratories)[2], Canary Center[3], and Stanford Cryo-Electron Microscopy Center (cEMc)[4], Stanford University; Department of Medicine (Division of Oncology)[5], University of Utah
260	DNA Methylation Valleys in Developing Murine Rod Photoreceptors	**Shruti Singh Kakan**[1], Nivedita Singh[2], Claire Marchal[2,3], Anand Swaroop[2], Ximena Corso-Díaz[1]

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261	Cell Mechanical Stress Response and Embryo Survival	**Jana Sipkova**[1,2], Vanessa Barone[1,2] Hopkins Marine Station[1] and Department of Biology[2], Stanford University
262	Comparative *In Silico* Analysis of COL7A1 Mutations in Recessive and Dominant Dystrophic Epidermolysis Bullosa	**Maria Skaf**[1], Yuri Ikeda[1], Jean Tang[1], Edward Eid[1] Department of Dermatology[1], Stanford University
263	Cell-Secreted Matrix Mediates Chondrocyte Mechanosensation of Hydrogel Viscoelasticity via Accumulation of Solid Stress	**Jake Song**[1], Sarah Jones[2], Fan Yang[3,4], Nidhi Bhutani[4], Marc Levenston[1], Ovijit Chaudhuri[1] Departments of Mechanical Engineering[1], Chemistry[2], Bioengineering[3], and Orthopaedic Surgery[4], Stanford University
264	*De Novo* Design of Symmetric Homooligomeric Protein Assemblies for RNA Export and Delivery Applications	**Lucas Sosnick**[1,2], Shanxiu Xu[2], Ailiena Maggiolo[3], Felix Horns[2,4] Departments of Bioengineering[1] and Genetics[4] and Arc Institute[2], Stanford University; Stanford Synchrotron Radiation Lightsource[3], SLAC National Accelerator Laboratory
265	snRNA-seq Reveals ER Stress in Retinal Endothelial and Glial Cells of *Vldlr*-/- Mice	**Ethan Stevenson**[1,2], Angela Galdamez[1,2], Soyoung Park[1,2], Allyssa Bradley[1,2], Masako Le[1,2], Leon Chea[1,2], Will Temme[1,2], Eun-Jin Lee[1,2], Jonathan Lin[1,2] Department of Ophthalmology[1], Stanford University; VA Palo Alto Health Care System[2]
266	Advancing CAR T Therapy with Surface-Enhanced-Raman-Based Live Immune Cell Monitoring	**Ariel Stiber**[1], Boi Quach[2,3,4], Babatunde Ogunlade[1], Antony Georgiadis[1], Kai Chang[1], Patrick Quinn[4], Yuanwei Li[1], Elena Sotillo[4], Haoqing Wang[5], Zinaida Good[2,3,4], Crystal Mackall[4], Jennifer Dionne[1,6] Departments of Materials Science & Engineering[1], Medicine (Division of Immunology & Rheumatology[2] and Center for Biomedical Informatics Research[3]), and Radiology[6], Center for Cancer Cell Therapy (Stanford Cancer Institute)[4], and Sarafan ChEM-H[5], Stanford University
267	Investigating the Role of Calcineurin Through SMCR8 in Acute Pancreatitis	**Mihajlo Stojkovic**[1], Sneha Roy[1], Olivia Tsai[2], Sohail Husain[2], Martha Cyert[1] Department of Biology[1] and Division of Pediatric Gastroenterology[2], Stanford University
268	Cell-to-Cell Co-registration of OCT and H&E Images in XY-Axis Without Fiducial Markers	**Smitha Rani Subbareddy**[1], Aidan Van Vleck[1], Ates Fettahoglu[1], Alec Van Vleck[1], Adam de la Zerda[1] Department of Structural Biology[1], Stanford University
269	A Multiplexing Biosensor for Metabolite Monitoring via Modular DNA Aptamer Probes Functionalized to High-Q Metasurfaces	**Eric Sun**[1], Yuanwei Li[1], Darrell Omo-Lamai[1], Varun Dolia[1], Sajjad Abdollahramezani[1], Jiyong Shim[1], Parivash Moradifar[1], Kai Chang[2], Sahil Dagli[1], Priyanuj Bordoloi[1], Jennifer A. Dionne[1,3] Departments of Materials Science & Engineering[1], Electrical Engineering[2], and Radiology[3], Stanford University
270	SIREN: Semantic, Initialization-Free Registration of Multi-Robot Gaussian Splatting Maps	Ola Shorinwa[1], **Jiankai Sun**[2], Mac Schwager[2], Anirudha Majumdar[1,3,4]

		Departments of Mechanical & Aerospace Engineering[1] and Computer Science[3], Princeton University; Department of Aeronautics & Astronautics[2], Stanford University; Google DeepMind[4]
271	ElectroChromic Optical REcording of Action Potentials and Mechanical Beatings from Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes	**Pengwei Sun**[1,3], Lothar Maisenbacher[4], Erica Liu[1,2], Yang Yang[1,2], Holger Müller[4], Yuecheng Zhou[5], Bianxiao Cui[1,2] Wu Tsai Neurosciences Institute[1] and Departments of Chemistry[2] and Radiology[3], Stanford University; Department of Physics[4], University of California Berkeley; Department of Materials Science & Engineering[5], University of Illinois Urbana-Champaign
272	3D Bioprinting of Ribbon-Shaped Microgels with Tunable Stiffness for Cell Differentiation and Patterning of Anisotropic Tissues	**Michelle Tai**[1], Hung Pang Lee[2], Sarah Jones[3], Xinming Tong[2], Sungwon Kim[2], Tony Tam[1], Jianyi Du[1], Mark A. Skylar-Scott[1], Fan Yang[1,2] Departments of Bioengineering[1], Orthopaedic Surgery[2], and Chemistry[3], Stanford University
273	Preliminary Evidence of Thalamocortical Hyperactivity in HCN2 Epileptic Mice Normalized by Lamotrigine in Homozygotes Only	**Fuga Takahashi**[1], Sung-Soo Jung[1], John R. Huguenard[1] Department of Neurology & Neurological Sciences[1], Stanford University
274	SPACEc: A Streamlined, Interactive Python Workflow for Multiplexed Image Processing and Analysis	**Yuqi Tan**[1,2]*, Tim N. Kempchen[1,3,4]*, Martin Becker[5], Max Haist[1,2], Dorien Feyaerts[7], Yang Xiao[6,8], Graham Su[9,10], Andrew J. Rech[11], John W. Hickey[1,2,12], Garry P. Nolan[1,2†] (*equal contribution; †senior author) Departments of Microbiology & Immunology[1], Pathology[2], and Anesthesia[7], Stanford University; University of Heidelberg[3]; German Cancer Research Center[4]; University of Rostock[5]; Departments of Biomedical Engineering[6] and Systems Biology[8], Columbia University; Department of Biomedical Engineering[9] and Yale Stem Cell Center & Yale Cancer Center[10], Yale University; Department of Pathology[11], University of Pennsylvania; Department of Biomedical Engineering[12], Duke University
275	Uncovering the Role of Secretagogin in Colonic Water Absorption	**Adarsh Tantry**[1,2], Yanfeng Jiang[3], Ghazal W. Masarweh[3], Zachary M. Sellers[3], Tibor Harkany[4,5], Julia A. Kaltschmidt[2,6] Neurosciences Program[1], Wu Tsai Neurosciences Institute[2], and Department of Pediatrics (Gastroenterology)[3], Stanford University; Department of Neuroscience[4], Karolinska Institutet; Department of Molecular Neurosciences, Center for Brain Research[5], Medical University of Vienna
276	Identifying Novel ATF6 Lumenal Domain Mutations in Achromatopsia Patients	**Will Temme**[1,2,3], Eun-Jin Lee[1,2,3], Stephen H. Tsang[4,5], M. Elizabeth Hartnett[1], Chi-Hsien Peng[6], Jonathan H. Lin[1,2,3] Departments of Ophthalmology[1] and Pathology[3], Stanford University; VA Palo Alto Healthcare System[2]; Departments of Ophthalmology[4] and Pathology & Cell Biology[5], Columbia University Irving Medical Center; Department of

		Ophthalmology[6], Shin Kong Wu Ho-Su Memorial Hospital & Fu-Jen Catholic University
277	Oncogene-Like Addiction to Aneuploidy in Human Cancers	Vishruth Girish[2], Asad A. Lakhani[3], **Sarah L. Thompson**[1], Christine M. Scaduto[3], Erin L. Sausville[2], Ryan A. Hagenson[2], Devon A. Lukow[2], Jason M. Sheltzer[1] Department of Radiation Oncology (Radiation & Cancer Biology)[1], Stanford University; Department of Surgery[2], Yale University; Cold Spring Harbor Laboratory[3]
278	A BRINP3-Derived Glucose-Sensitive Peptide that Suppresses Feeding and Obesity	Jameel Lone[1], Mahbuba Akter Lubna[3], Amanda Wiggenhorn[1], Laetitia Coassolo[1], Zeyuan Zhang[1], **Michelle To**[1], Vinicius Miessler de Andrade Carvalho[1], Eric Hohmann[1], Quennie Nguyen[1], Jacob Sture Madsen[7], Ying Shao[3], Han Sun[8], Lianna W. Wat[1], Maricruz Alvarado Mandujano[9], Yasmin Zilfi Vermaas[3], Azusa Terasaki[1], Khoa Dang Trinh[1], Minas Nalbandian Geymonat[10], Peggy E. Kraft[10], Kelly Li[10], Derick Okwan[1], Anders Hay-Schmidt[14], Helen M. Blau[10], Kaare Villum Grunddal[11], Nirao Shah[9], Anna L. Gloyn[8], Alexander S. Hauser[7], Jonathan Long[1], Niels B. Danneskiold-Samsoee[3], Katrin J. Svensson[1] Departments of Pathology[1], Pediatrics and Genetics[8], Psychiatry & Behavioral Sciences[9], and Microbiology & Immunology (Baxter Laboratory for Stem Cell Biology)[10], Stanford University; Departments of Biology[3], Drug Design & Pharmacology[7], Biomedical Sciences[11], and Odontology[14], University of Copenhagen
279	Role of Paracrine Signalling in the Accumulation of Senescent Cells	**Laura Tong**[1], Madhav Mantri[1], Stephen R. Quake[1,2] Department of Bioengineering[1], Stanford University; Chan Zuckerberg Initiative[2]
280	Establishing a New Relationship Between Tuft and Microfold Cell Development in the Intestine	**Heather H. Tran**[1], Gabriel M. Barron[2], Michael R. Howitt[3,4] Departments of Bioengineering[1], Pathology[3], and Microbiology & Immunology[4] and Program in Immunology[2], Stanford University
281	Mapping the Architecture of Protein Complexes in Arabidopsis Using Cross-Linking Mass Spectrometry	**Cao Son Trinh**[1,2]*, Ruben Shrestha[1]*, William C. Conner[1], Andres V. Reyes[1,2], Sumudu S. Karunadasa[1,2], Grace Liu[1], Ken Hu[1], Shou-Ling Xu[1,2] (*equal contribution) Department of Plant Biology[1] and Carnegie Mass Spectrometry Facility[2], Carnegie Institution for Science, Stanford University
282	Rational CAR T Cell Design via Attention-Based Multiple Instance Learning of Infusion Product scRNA-Seq Data	**Kristin C. Y. Tsui**[1,2,3]*, Kameron B. Rodrigues[1,2,3]*, Xianghao Zhan[1,2,3,4]*, Yiyun Chen[3], Kelvin C. Mo[1,2,3], Crystal L. Mackall[3,5,6,7], David B. Miklos[3,6,7], Olivier Gevaert[2,4]†, Zinaida Good[1,2,3,7]† (*equal contribution; †senior author) Departments of Medicine (Divisions of Immunology & Rheumatology[1] and Blood & Marrow Transplantation & Cellular Therapy[6]), Pediatrics (Division of Hematology & Oncology[5]), and Biomedical Data Science[4], Center for Biomedical Informatics Research[2], and Stanford Cancer Institute (Center for

		Cancer Cell Therapy[3]), Stanford University; Parker Institute for Cancer Immunotherapy[7]
283	Tracking MDSCs in Preclinical Melanoma Brain Metastasis Before and After Immunotherapy Using a Novel GPR84-PET Tracer	**Gianna Tuffley**[1], Rohit Verma[2], Samantha T. Reyes[1], Piper Mahn[1], Paco Tsoi[1], Jonathan Green[1], Isaac Jackson[1], Mausam Kalita[1], Israt S. Alam[1], Laura Pisani[1], Graeme Milligan[3], Michael Lim[2], Renesmee C. Kuo[4], Michelle L. James[1,5] Departments of Radiology[1], Neurosurgery[2], Electrical Engineering[4], and Neurology & Neurological Sciences[5], Stanford University; Centre for Translational Pharmacology, School of Molecular Biosciences, College of Medical, Veterinary & Life Sciences[3], University of Glasgow
284	Lateral Extra-Articular Tenodesis (LET) Anatomy in the Skeletally Immature – Can We Reconstruct the LET and Avoid Physeal Injury?	**Hubert Tuyishime**[1], Bryan Khoo[1], Katelin Isakoff[1], Luis Fernando Viegas de Moraes Leme[1], Alan Anaya Gallegos[1], Iris Cong[1], Paul Bergeron[1], Calvin Chan[1], Amishi Jobanputra[1], Stephanie Pearce[2], Yi-Meng Yen[3], Matthew Schmitz[4], Marc Tompkins[5], Philip Wilson[6], Molly Meadows[1], Charles Chan[1], Henry Ellis[7], Theodore Ganley[8], Kevin Shea[1] Department of Orthopaedic Surgery[1], Stanford University; Department of Orthopaedic Surgery[2], Nemours Children's Hospital; Department of Orthopedics & Sports Medicine[3], Boston Children's Hospital; Department of Orthopedic Surgery[4], Rady Children's Hospital - San Diego; Department of Orthopaedic Surgery[5], University of Minnesota Twin Cities; Department of Orthopaedic Surgery[6], Scottish Rite for Children; Department of Orthopedic Surgery[7], Scottish Rite for Children Sports Medicine; Division of Orthopaedic[8], Children's Hospital of Philadelphia
285	Anatomy of the Popliteal Tendon and Popliteal Hiatus - Implications for Meniscus Stability and Repair	**Hubert Tuyishime**[1], Dominic O'Dowd[2], Bryan Khoo[1], Katelin Isakoff[1], Luis Fernando Viegas de Moraes Leme[1], Iris Cong[1], Alan Anaya Gallegos[1], Paul Bergeron[1], Calvin Chan[1], Amishi Jobanputra[1], Yi-Meng Yen[3], Matthew Schmitz[4], Marc Tompkins[5], Philip Wilson[6], Molly Meadows[1], Charles Chan[1], Henry Ellis[7], Stephanie Pearce[8], Theodore Ganley[9], Kevin Shea[1] Department of Orthopaedic Surgery[1], Stanford University; Department of Orthopaedic Surgery[2], Sheffield Children's Hospital; Department of Orthopedics & Sports Medicine[3], Boston Children's Hospital; Department of Orthopedic Surgery[4], Rady Children's Hospital - San Diego; Department of Orthopaedic Surgery[5], University of Minnesota Twin Cities; Department of Orthopaedic Surgery[6], Scottish Rite for Children; Department of Orthopedic Surgery[7], Scottish Rite for Children Sports Medicine; Department of Orthopaedic Surgery[8], Nemours Children's Hospital; Division of Orthopaedic[9], Children's Hospital of Philadelphia
286	Ultra-Efficient Kidney Stone Fragment Removal via Spinner-Induced Synergistic Circulation and Spiral Flow	Yilong Chang[1], **Jasmine Guadalupe Vallejo**[1], Yangqing Sun[1], Ruike Renee Zhao[1] Department of Mechanical Engineering[1], Stanford University

287	Geometric Deep Learning for Neurovascular Structures	**Henk van Voorst**[1], Greg Zaharchuk[1], Jeremy Heit[1] Department of Radiology[1], Stanford University
288	Identifying Uremic Toxins in Hemodialysis Patients with Liquid Chromatography-Mass Spectrometry	**Arin Vansomphone**[1,2], Josef K. Suba[2,3], Tammy L. Sirich[2,3], Timothy W. Meyer[2,3] Departments of Bioengineering[1] and Medicine[3], Stanford University; Department of Medicine[2], VA Palo Alto Health Care System
289	Differentiation of MPNSTs from Benign Neurofibromas in Neurofibromatosis Patients Using ADC and SUV Biomarkers in Children and Adolescents	**Zahra Shokri Varniab**[1], Yashas Ullas Lokesha[1], Jing Qi[2], Elizabeth Hawk[1], Jason Wong[1], Michael Iv[3], Heike Daldrup-Link[1,4] Departments of Radiology (Molecular Imaging Program at Stanford[1] and Division of Neuroimaging & Neurointervention[3]), and Pediatrics (Pediatric Oncology)[4], Stanford University; Department of Radiology (Children's Wisconsin)[2], The Medical College of Wisconsin
290	Impact of Reader Experience on the Time-Saving Potential of a Novel Computer-Aided Tool for Ann Arbor Staging in Pediatric Hodgkin Lymphoma	**Iryna Vasyliv**[1], Michael Joseph Barrow[1], Lucia Baratto[1], Hyun Gi Kim[1], Vanessa Ricarda Sophie von Kruechten[1], Yashas Ullas[1], Amir Hossein Sarrami[1], Marine Moeremans[1], Kip E. Guja[1], Kristina Hawk[1], Jason Wong[1], Heike E. Daldrup-Link[1] Department of Radiology[1], Stanford University
291	Neurobehavioral and Psychiatric Functioning in Youth with NF1 Compared to Youth with ASD/ADHD	**Annetta Venford**[1], Sara K. Pardej[1], Tamar Green[1] Department of Psychiatry & Behavioral Sciences[1], Stanford University
292	Repurposing of Anti-Seizure Medication Levetiracetam for Glioma Therapy	**Linh Vo**[1], Tara Barron[1], Pamelyn Woo[1], Kiarash Shamardani[1], Vilina Mehta[1], Samin Maleki Jahan[1], Enrique Castaneda[1], Michelle Monje[1,2,3,4] Departments of Neurology & Neurological Sciences[1], Neurosurgery[3], and Pathology[4] and Howard Hughes Medical Institute[2], Stanford University
293	Uncoupling the Effects of Host Size and Protein Translation Rate on λ Phage Infection Dynamics	**Ann Vu**[1], Mathis Leblanc[2], Jonas Cremer[1] Department of Biology[1] and Biophysics Program[2], Stanford University
294	Mitochondria-Rich Extracellular Vesicles Restore Bioenergetics in Murine Model	**Alyssa Wang**[1], Mariko Ieki[1], Amogha Paleru[1], Jiwen Li[1], Yuka Matsuura[1], Gentaro Ikeda[1], Phillip Yang[1] Stanford Cardiovascular Institute[1], Stanford University
295	Investigating Proteolytic Activation of a Novel Hydrolase in Bacterial Cell Death	**Katherine Wang**[1], Simone A. Evans[1,2], Collin Chiu[1], Alex Gao[1,3] Departments of Biochemistry[1], Genetics[2], and Microbiology & Immunology[3], Stanford University
296	RadPlan Agent: An Agentic Framework for Fully Autonomous and Adaptive Radiotherapy Planning	**Siqi Wang**[1], Sheng Liu[2], Ruining Zhang[3], Lei Xing[1] Departments of Radiation Oncology[1] and Biomedical Data Science[2], Stanford University; Department of Mathematics & Computer Science[3], University of Illinois Urbana-Champaign
297	Mitochondrial Copper Depletion Triggers OXPHOS-Rewired Cell Death via MT-COX2 Loss	**Ting Wang**[1], Zhen Xiao[1], Sheng-yao Dai[1], Jianghong Rao[1] Department of Radiology[1], Stanford University
298	Precise MRI-Histology Coregistration of Paraffin-Embedded Tissue with Blockface Imaging	**Yixin Wang**[1], William Ho[2], Istvan N. Huszar[3], Phillip DiGiacomo[2], Hossein Moein Taghavi[2], Lee Tao[2],

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299	CRISPRi Screen Identify FXYD5 as Siglec-7 Ligand for Prostate Cancer	**Ru M. Wen**[1], G. Edward W. Marti[2], Eric E. Peterson[1], Zenghua Fan[4], Aram Lyu[4], Nathan Lam[1], Hongjuan Zhao[1], Donna M. Peehl[4], Lawrence Fong[4], Sharon J. Pitteri[3], James D. Brooks[1] Departments of Urology[1], Molecular & Cellular Physiology[2], and Radiology[3], Stanford University; University of California San Francisco[4]
300	FXYD5 Is a Tumor Suppressor for Prostate Cancer	**Ru M. Wen**[1], G. Edward W. Marti[2], Neeladrisingha Das[3], Zhengyuan Qiu[1], Eric E. Peterson[1], Nathan Lam[1], Fernando Jose Garcia Marques[4], Abel Bermudez[4], Hongjuan Zhao[1], Guillem Pratx[3], Donna M. Peehl[5], Sharon J. Pitteri[4], James D. Brooks[1] Departments of Urology[1], Molecular & Cellular Physiology[2], Radiation Oncology[3], and Radiology[4], Stanford University; University of California San Francisco[5]
301	Simulating Scintillator Detectors in the Light Dark Matter eXperiment	**Jackson Whitt**[1], Majd Ghrear[1], Lauren Tompkins[1] Department of Physics[1], Stanford University
302	Development of Novel Polyacrylamide Copolymers as Next-Generation Broad-Spectrum Antibiotics	**Shoshana C. Williams**[1], Madeline Chosy[1], Lynette Cegelski[1], Eric A. Appel[2] Departments of Chemistry[1] and Materials Science & Engineering[2], Stanford University
303	Hormonal Regulation of Uterine Vascularization	**Krista Wong**[1], James B. Zwierzynski[1,4], Mira N. Moufarrej[1], Kristy Red-Horse[1,2,3,4] Department of Biology[1], Institute for Stem Cell Biology & Regenerative Medicine[2], Howard Hughes Medical Institute[3], and Stanford Cardiovascular Institute[4], Stanford University
304	Neuronal Activity Promotes the Growth of Diffuse Hemispheric Glioma, H3G34-Mutant	**Samuel H. Wu**[1], Richard Drexler[1], Kathryn R. Taylor[1], Michelle Monje[1] Department of Neurology & Neurological Sciences[1], Stanford University
305	Seeing the Unseen: AR Visualization Powered by State Estimation for Breast-Conserving Surgery and Beyond	**Yuxuan Wu**[1], Wally L. Niu[1], Serena Zhang[2], Yue Yang[3], Brian A. Hargreaves[1,3], Jacqueline Tsai[4], Bruce L. Daniel[1,3] Departments of Bioengineering[1], Computer Science[2], Radiology[3], and Surgery[4], Stanford University
306	Activatable MPI Nanoprobe as Molecular Sensing Platforms for Biological Targets	**Zhen Xiao**[1], Jianghong Rao[1] Department of Radiology[1], Stanford University

307	Integrating Histopathology and Spatial Transcriptomics for Tumor Microenvironment Analysis and Personalized Radiotherapy	**Xiaohan Xing**[1], Lei Xing[1] Department of Radiation Oncology[1], Stanford University
308	Structural Investigation of Enterovirus D68 Binding with Entry Receptor MFSD6	**Lily Xu**[1], Grigore Pintilie[2], Lauren Varanese[1], David S. Roberts[3], Carolyn R. Bertozzi[3], Jan E. Carette[1], Wah Chiu[1,2] Departments of Microbiology & Immunology[1], Bioengineering[2], and Chemistry[3], Stanford University
309	From Campus to Community: Testing a Scalable Food Truck Model for ADA/AHA Meals	**Jared E. Yalung**[1,2], Stephanie Ibe[1], Reha Shah[1], Shreeya Moharir[1], Richard Wittman[1,3], Grace Koo[1], Samantha Wong[1], Sania Srivastava[1], Claire Xu[1], Saakshi Arvikar[1], Lily Phan[1], Kevin Bach[1], Linda Koh[5], Andrea Krenek[4], Minal Moharir[1,3] Division of Primary Care & Population Health[1], Occupational Health Center[3], and Prevention Research Center[4], Stanford University; University of California San Francisco School of Medicine[2]; University of Massachusetts Amherst[5]
310	Extracting Spatial Geometry of Triangular Electrode Arrays from Neural Electrical Stimulation Data for Retinal Implants	**Seiji Yang**[1], Praful Vasireddy[2], Raman Vilkhu[2], E.J. Chichilnisky[3] Departments of Mathematics[1], Electrical Engineering[2], and Neurosurgery[3], Stanford University
311	High-Resolution Limited-Angle CBCT Image Reconstruction for Non-Coplanar Radiation Therapy via Dual-Domain Ordered-Subset Neural Representation with Prior Embedding (DDOS-NeRP)	**Siqi Ye**[1], Yu Gao[1], Lei Xing[1] Department of Radiation Oncology[1], Stanford University
312	*In Vitro* Generated Neutrophils Reveal High Neutrophil Deformability Is an Emergent Property	**Allen Yesin**[1], Regina Sanchez-Flores[1], Hawa Racine Thiam[1,2,3,4,5] Departments of Bioengineering[1] and Microbiology & Immunology[2] and Sarafan ChEM-H Institute[3], Stanford University; Chan Zuckerberg Biohub[4]; Esther Ehrman Lazard Faculty Scholar[5]
313	Structural and Computational Insights into Biomolecular Dynamics and Therapeutic Discovery	**Shun Yokoi**[1,2], Ayori Mitsutake[3], Tsuyoshi Saitoh[2,4], Soichi Wakatsuki[1,5] Department of Structural Biology[1], Stanford University; International Institute for Integrative Sleep Medicine (WPI-IIIS), Tsukuba Institute for Advanced Research (TIAR)[2] and Faculty of Medicine[4], University of Tsukuba; Department of Physics[3], School of Science & Technology, Meiji University; Biological Sciences Division[5], SLAC National Accelerator Laboratory
314	Multimodal Investigation of the Z-Disc as a Driver of Hypertrophy and Sarcomere Assembly	Magda Zaoralova[1,2,3,4], **Joseph Yoniles**[1,3,4,5], Prerna Giri[6,7], Giovanni Fajardo[6,7], Daniel Bernstein[6,7], Peter Dahlberg[1,3], Alexander R. Dunn[4] Division of Cryo-EM & Bioimaging, SSRL[1], SLAC National Accelerator Laboratory; Departments of Bioengineering[2], Structural Biology[3], Chemical Engineering[4], Biophysics[5], and Pediatrics[6] and Cardiovascular Institute[7], Stanford University
315	Improving Brain-to-Text Decoding via Late-Fusion Ensembling and Test-Time Augmentation	**Seonghyun Yoon**[1], Donald Avansino[1], Sasidhar Madugula[1], Benyamin Abramovich Krasa[2], Chaofei Fan[3], Alisa Levin[3], Nicholas S. Card[6], Nick Hahn[1], Hyun Dong Lee[3], Akansha Singh[1], Samuel R. Nason-Tomaszewski[7], Brandon Jacques[7], Payton H.

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316	Hot Off the Press: RNA Viruses that Infect Thermophilic Bacteria	**Sophia Yuan**[1], Amanda N. Shelton[1], Devaki Bhaya[1] Division of Biosphere Sciences & Engineering[1], Carnegie Science, Stanford University
317	Ethics of Using Multimodal AI to Predict Cancer Immunotherapy Outcomes	**Allison G. Yun**[1], Grace R. Qian[1], Nicole Martinez-Martin[1] Center for Biomedical Ethics[1], Stanford University
318	Auditing the AlphaFolds – Do Diffusion Models Learn Protein Thermodynamics?	**Ethan Zhang**[1], Steven Dunne[2], Grant M. Rotskoff[2] Departments of Computer Science[1] and Chemistry[2], Stanford University
319	Hearts On Fire: Linking Inflammation and Heart Disease Using a Cardioimmune Organoid System	**Lucy Zhang**[1], Alun Vaughan-Jackson[1], Michael Bassik[1], Casey Gifford[1,2] Departments of Genetics[1] and Pediatrics[2], Stanford University
320	MultiSPICE: Consensus-Based Screening and Selection of Ligand-Receptor Interactions for Cell-Cell Communication in Multi-Sample Spatial Transcriptomics	**Mengrui Zhang**[1], Anuja Sathe[2], Zhenjiang Fan[3], Andrew Cheng[4], Claudia Petritsch[3], Mike Lim[3], Melanie Gephart[3], Hanlee P. Ji[2], Summer S. Han[1,3] Departments of Medicine (Quantitative Sciences Unit[1] and Division of Oncology[2]), Neurosurgery[3], and Computer Science[4], Stanford University
321	Evaluating the Impact of Objective Activity Measures Using Wearable Devices for Patients Undergoing Spine Surgery	**Mengrui Zhang**[1]*, Gavin C. Touponse[2]*, Sayeri Lala[1,2], Gabriella Morton[2], Nicolai Maldaner[3], Aparajita Khan[4], Summer S. Han[1,2†], Corinna Zygourakis[2†] (*equal contribution; †equal contribution) Departments of Medicine (Quantitative Sciences Unit[1]) and Neurosurgery[2], Stanford University; Department of Neurosurgery[3], University Hospital Zürich; Department of Computer Science & Engineering[4], Indian Institute of Technology Roorkee
322	Persistence and Transmission Risk of Influenza Viruses in Milk	**Mengyang Zhang**[1], Alessandro Zulli[1], Catherine Blish[2], Alexandria Boehm[1] Departments of Civil & Environmental Engineering[1] and Medicine[2], Stanford University
323	Designing the Future of Meat: Integrating Mechanical Characterization and Consumer Perception of Animal and Plant-Based Proteins	**Nancy Zhang**[1], Lucas Boyle[1], Marie Goodson[1], Manuel Palomares[1], Skyler St. Pierre[1], Ellen Kuhl[1] Department of Mechanical Engineering[1], Stanford University

324	Modular Readout Electronics System for a 3D Position Sensitive 100 ps Coincidence Time Resolution TOF-PET Detector Configuration	**Zhixiang Zhao**[1], Craig S. Levin[1,2,3,4,5] Departments of Radiology[1], Bioengineering[2], Physics[3], and Electrical Engineering[4] and Molecular Imaging Program[5], Stanford University
325	Next-Generation Proximity Labeling Enzyme (FlexID2) for Zero-Radius Mapping of Protein Interactomes with Integrated Computational Approaches for Ligand-Induced Conformational Bias	**Zhiyuan Zhang**[1], Chang Lin[1], Zhaoyang Li[1], Shizhong Dai[1], Peter E. Cavanagh[1], Albert Qiang[1], Sangsin Lee[1], Alice Y. Ting[1] Department of Genetics[1], Stanford University
326	Stretchable and Biodegradable Piezoelectric Nanocomposite Films for Pressure Sensor Array	**Zhuomin Zhang**[1], Zhangying Xu[1], Honglai Cai[1], Vivian R. Feig[1] Department of Mechanical Engineering[1], Stanford University
327	Biocompatible Hydrogels for Skeletal Muscle Regeneration	**Peng Zhao**[1], Yunzhi Peter Yang[1] Department of Orthopaedic Surgery[1], Stanford University
328	Single-Molecule Peptide Sequencing via Chemoenzymatic Reverse Translation of Peptide into DNA	**Liwei Zheng**[1], Yujia Sun[1], Linus A. Hein[2], Hyongsok Tom Soh[1,2,3] Departments of Radiology[1], Electrical Engineering[2], and Bioengineering[3], Stanford University
329	Genetic Architectures of Human Complex Traits Reveal Stronger Selective Constraints on Psychiatric Disorders and Other Brain-Related Traits	**Huisheng Zhu**[1], Yuval B. Simons[2,3,4], Jeffrey P. Spence[2,5,6], Guy Sella[7,8], Jonathan K. Pritchard[1,2] Departments of Biology[1] and Genetics[2], Stanford University; Section of Genetic Medicine[3] and Department of Human Genetics[4], University of Chicago; Institute for Human Genetics[5] and Department of Epidemiology & Biostatistics[6], University of California San Francisco; Department of Biological Sciences[7] and Program for Mathematical Genomics[8], Columbia University
330	Activating $p53^{Y220C}$ with a Mutant-Specific Small Molecule	**Xijun Zhu**[1]*, Woong Sub Byun[2]*, Dominika Ewa Pieńkowska[3]*, Kha The Nguyen[4,5], Nick A. Phillips[6], Jan Gerhartz[3], Qixiang Geng[2], Tian Qiu[2], Jianing Zhong[1], Zixuan Jiang[1], Mengxiong Wang[4,5], Roman C. Sarott[2], Stephen M. Hinshaw[2], Tinghu Zhang[2], Laura D. Attardi[4,5,6], Radosław P. Nowak[3], Nathanael S. Gray[2] (*equal contribution); Departments of Chemistry[1], Chemical & Systems Biology (ChEM-H, and Stanford Cancer Institute)[2], Radiation Oncology (Division of Radiation & Cancer Biology)[4], and Genetics[5] and Cancer Biology Program[6], Stanford University; Institute of Structural Biology (Medical Faculty)[3], University of Bonn
331	Automated In-Line Normal Voxel Search Procedure for Normalization of BOLD-CVR Using the Resting-State Temporal Shift with Machine Learning	**Yihui Zhu**[1,2], Siddhant Dogra[2], Xiuyuan Wang[3], Seena Dehkharghani[1,2] Department of Radiology[1], Stanford University; Department of Radiology[2], New York University; Department of Radiology[3], Weill Cornell Medical College
332	Investigating the Impact of Pesticides on Gut Microbial Communities and Isolates	**Zhao Bang Zhu**[1], Beverly Fu[1], Kerwyn Casey Huang[1] Department of Bioengineering[1], Stanford University
333	Posterior Cerebral Artery Stenosis and Thalamic Periventricular Anastomoses in Moyamoya Disease	**Aja Zou**[1], Shoko Hara[2], Moss Zhao[1], Gary K. Steinberg[1]

		Department of Neurosurgery[1], Stanford University; Department of Neurosurgery[2], Tokyo Medical & Dental University
334	Triplexed PET: Methods to Image Three Distinct Isotopes in a Single PET Imaging Session	**Sarah J. Zou**[1,2], Muhammad Nasir Ullah[1], Derek Innes[1], Yug Shah[1], Garry Chinn[1], Hailey A. Houson[3], Suzanne E. Lapi[3], Craig S. Levin[1,2,4,5] Departments of Radiology (Molecular Imaging Program)[1], Electrical Engineering[2], Bioengineering[4], and Physics[5], Stanford University; Department of Radiology[3], University of Alabama Birmingham
335	Chemokine Signaling Connected Mother and Fetus During Pregnancy	**James B. Zwierzynski**[1,4], Mira N. Moufarrej[1], Kristy Red-Horse[1,2,3,4] Department of Biology[1], Institute for Stem Cell Biology & Regenerative Medicine[2], and Cardiovascular Institute[4], Stanford University; Howard Hughes Medical Institute[3]