



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY  | POSTER TITLE   | PRESENTER         |
|---------------|-----------|--|-------------------|
| 0001          | Cell Type | An Atlas of Arealization Identifies Dynamic Molecular Signatures in the Developing Human Brain   | Aparna Bhaduri    |
| 0002          | Cell Type | Visualizing inhibitory circuit maturation in the developing mouse brain  | Josiah R. Boivin  |
| 0003          | Cell Type | Expansion Immuno-SABER: Towards Multiplexed Nanoscale Protein Mapping Throughout Brain Circuits  | Ed Boyden         |
| 0004          | Cell Type | An unexpected detour on the path to "plasticity ensembles": Striatal cholinergic interneurons constitutively engage the ISR pathway for dopamine modulation and skill learning | Nicole Calakos    |
| 0005          | Cell Type | A transcriptional regulatory mechanism of sensory-dependent refinement   | Lucas Cheadle     |
| 0006          | Cell Type | Recording and reading of transcription factor binding and gene expression in single cells  | Joseph Dougherty  |
| 0007          | Cell Type | Alternating recruitment and opposed scaling of distinct hippocampal inhibitory modules during behavior   | Barna Dudok       |
| 0008          | Cell Type | In search of somatosensory pathways from nerve cord to brain: Ascending neurons in Drosophila  | Erica Ehrhardt    |
| 0009          | Cell Type | A conserved hypothalamic locomotor cell-type that broadcasts future speed  | Jordan Farrell    |
| 0010          | Cell Type | Spatially Resolved Methylomes to Map Cell-Types in Tissue  | Robert Henley     |
| 0011          | Cell Type | Genetic mechanisms specifying astrocyte functional diversity and their role in sleep   | Margaret Ho       |
| 0012          | Cell Type | Coupling between circadian rhythms and redox signaling in neural stem cell differentiation   | Daniel Iascone    |
| 0013          | Cell Type | BRAIN-seq or Aplysia neural system at the single-cell resolution: Insights in the origins of neuronal centralization and memory mechanisms                                     | Leonid L. Moroz   |
| 0014          | Cell Type | Robotag-Seq: Robot assisted cellular barcoding for transcriptome-wide sequencing of anatomically identified cell populations in intact tissue                                  | Jacob O'Brien     |
| 0015          | Cell Type | Functions of striatal astrocyte-enriched $\mu$ -crystallin in vivo   | Matthias Ollivier |
| 0016          | Cell Type | Single-cell analysis of the ventricular-subventricular zone reveals signatures of dorsal and ventral adult neurogenic lineages   | Stephanie Redmond |
| 0017          | Cell Type | Measuring genome-wide binding of the circadian clock protein BMAL1 in a cell-type specific manner in the murine brain  | India Reiss       |
| 0018          | Cell Type | Global and subtype-specific modulation of cortical inhibitory neurons by acetylcholine during motor learning   | Chi Ren           |
| 0019          | Cell Type | Brain organoids regional specification into a mesofluidic device   | Soraya Scuderi    |



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| 0020          | Cell Type        | Selective manipulation of sodium-dependent astrocytic functions using ChromeQ   | Jennifer Shih    |
| 0021          | Cell Type        | Elucidating Neocortical Mechanisms of Perceptual Inference Using Illusory Contours  | Hyeyoung Shin    |
| 0022          | Cell Type        | DNA methylation atlas of human brain cortices   | Wei Tian         |
| 0023          | Cell Type        | Single cell isoform expression across mouse brain regions and development   | Hagen Tilgner    |
| 0024          | Cell Type        | Discovery, validation, and optimization of enhancer AAVs for targeting and functional analysis of brain cell types and circuits                   | Jonathan Ting    |
| 0025          | Cell Type        | Phenotypic variation of transcriptomic cell types in mouse motor cortex   | Andreas Tolias   |
| 0026          | Cell Type        | Contributions of adult neurogenesis to neural flexibility in the Dentate Gyrus  | Sebnem Tuncdemir |
| 0027          | Cell Type        | Linking enhancers to genes using single neuron transcriptomes and epigenomes with stringent statistical criteria and multi-modal cross validation | Fangming Xie     |
| 0028          | Cell Type        | Calling Cards: a platform that enables parallel recording of enhancer usage and gene expression in developing mouse tissues                       | Allen Yen        |
| 0029          | Cell Type        | Optogenetic activation of spinal microglia triggers chronic pain in mice  | Min-Hee Yi       |
| 0030          | Cell Type        | Towards a comprehensive whole-brain atlas of cell types in the mouse  | Hongkui Zeng     |
| 0031          | Cell Type        | Epigenomic Diversity of Cortical Projection Neurons in the Mouse Brain  | Zhuzhu Zhang     |
| 0032          | Cell Type        | Motion-sensitive thalamic neurons project extensively to the middle layers of primary visual cortex   | Jun Zhuang       |
| 0033          | Cell Type        | Diversity of layer II/III excitatory neuron subtype identity and connectivity in the mouse somatosensory neocortex                                | Jakub Ziak       |
| 0034          | Cell Type        | A comprehensive single-cell atlas of the adult rhesus macaque brain   | Trisha M. Zintel |
| 1000          | Circuit Diagrams | Central processing of leg proprioception in Drosophila  | Sweta Agrawal    |
| 1001          | Circuit Diagrams | Wiring logic of the early rodent olfactory system revealed by high-throughput sequencing of single neuron projections                             | Dinu Albeanu     |
| 1002          | Circuit Diagrams | Multiscale analysis of Drosophila connectomes   | Davi Bock        |
| 1003          | Circuit Diagrams | Software infrastructure for annotation and analysis of Drosophila connectomes   | Davi Bock        |



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|---------------|------------------|--|------------------------|
| 1004          | Circuit Diagrams | Expansion Microscopy and BARseq: Towards a Simple, Scalable Connectomic Toolbox                                    | Ed Boyden              |
| 1005          | Circuit Diagrams | The ventral pallidum and the lateral habenula in Approach/Avoidance Conflict                                       | Christian Bravo-Rivera |
| 1006          | Circuit Diagrams | Functional architecture of neural circuits for leg proprioception in Drosophila                                    | Chenghao Chen          |
| 1007          | Circuit Diagrams | Elemental motor control features of Drosophila flight  | Itai Cohen             |
| 1008          | Circuit Diagrams | Finding partners: Transgenic tools for trans-synaptic tracing  | Cagney Coomer          |
| 1009          | Circuit Diagrams | Identifying the function and downstream targets of the projection from prefrontal cortex to ventral tegmental area | Victoria Corbit        |
| 1010          | Circuit Diagrams | Effects of transcardial perfusion approach and timing on brain tissue ultrastructure                               | Zachary Deane          |
| 1011          | Circuit Diagrams | Circuit and Synaptic Mechanisms of Visual Spatial Attention  | Joseph Del Rosario     |
| 1012          | Circuit Diagrams | FlyWire: Online community for whole-brain connectomics   | Sven Dorkenwald        |
| 1013          | Circuit Diagrams | Unsupervised Neural Tracing in Densely Labeled Multispectral Brainbow Images                                       | Bin Duan               |
| 1014          | Circuit Diagrams | New tools for efficient 3D analysis of mouse spinal cord   | Felix Fiederling       |
| 1015          | Circuit Diagrams | Neural Networks of the Mouse Cortico-basal Ganglia-Thalamic System   | Nicholas Foster        |
| 1016          | Circuit Diagrams | Oxytocin Modulation of Neural Circuit Function and Behavior  | Robert Froemke         |
| 1017          | Circuit Diagrams | Towards High-throughput Synaptic Connectivity Mapping  | Marta Gajowa           |
| 1018          | Circuit Diagrams | Re-engineering connectivity in the Drosophila brain  | Marco Gallio           |
| 1019          | Circuit Diagrams | Cortico-basal ganglia circuits underlying action selection   | Allison Girasole       |
| 1020          | Circuit Diagrams | Enabling Identification and Impact of Synaptic Weight in Functional Networks                                       | Kristen Harris         |
| 1021          | Circuit Diagrams | In situ PSF retrieval (INSPR) Enables Single Molecule Localization Microscopy through Brain Sections               | Fang Huang             |
| 1022          | Circuit Diagrams | Anatomical mechanisms underlying the temporal diversity of synaptic efficacy in Drosophila                         | James Jeanne           |



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|---------------|------------------|---|--------------------|
| 1023          | Circuit Diagrams | A neural circuit for flexible control of persistent behavioral states   | Ni Ji              |
| 1024          | Circuit Diagrams | Wireless Multimodal Implantable Neural Interface Device   | Linran Zhao        |
| 1025          | Circuit Diagrams | Monosynaptic tracing with nontoxic second- and third-generation rabies viral vectors  | Lei Jin            |
| 1026          | Circuit Diagrams | Team aABC: Reverse Engineering the Brain Stem Circuits that Govern Exploratory Behavior   | David Kleinfeld    |
| 1027          | Circuit Diagrams | Neural circuitry for the initiation of maternal responses to pup vocalizations  | Amy LeMessurier    |
| 1028          | Circuit Diagrams | Cortico-fugal regulation of predictive coding   | Alexandria Lesicko |
| 1029          | Circuit Diagrams | Superior colliculus circuits for action selection   | Nuo Li             |
| 1030          | Circuit Diagrams | Non-canonical projections from ventral hippocampal CA1, subicular complex and perirhinal cortex to dorsal hippocampal CA3 augment the feedforward hippocampal trisynaptic pathway | Xiaoxiao Lin       |
| 1031          | Circuit Diagrams | Experimental and Modeling Investigations into a Novel Mechanism of Adaptive Stimulus Selection for Sharp Wave Ripple-related Memory Consolidation in the Hippocampus              | Attila Losonczy    |
| 1032          | Circuit Diagrams | Mechanisms for the establishment of motor pool recruitment hierarchy  | Brandon Mark       |
| 1033          | Circuit Diagrams | Multisensory circuit control of dynamic Drosophila courtship behavior   | Edna Normand       |
| 1034          | Circuit Diagrams | Space and feature-dependent recruitment of inhibition by neural ensembles   | Ian Oldenburg      |
| 1035          | Circuit Diagrams | A role of the VMHvl plasticity in social fear learning through oxytocin receptors   | Takuya Osakada     |
| 1036          | Circuit Diagrams | Sensorimotor neural patterns in the octopus arm   | Galit Pelled       |
| 1037          | Circuit Diagrams | Preservation of Ultrastructure and Antigenicity after Rehydration of Cryofixed Brain Tissue   | Janeth Perez-Garza |
| 1038          | Circuit Diagrams | High-throughput fluorescent methods for thalamocortical synapse analysis during learning  | Ajit Ray           |
| 1039          | Circuit Diagrams | Sparse thalamocortical convergence  | Dario Ringach      |
| 1040          | Circuit Diagrams | Mapping neurotransmitter receptors within circuits of Drosophila brain at single cell resolution  | Piero Sanfilippo   |
| 1041          | Circuit Diagrams | A Fully CMOS-Integrated 1D High-Frequency Ultrasound Transducer Array Towards Single-Cell Resolution Photoacoustic Tomography   | Jeffrey Sherman    |



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| 1042          | Circuit Diagrams        | Interval Timing in Drosophila  | Ashley Smart             |
| 1043          | Circuit Diagrams        | All-optical mapping of synaptic connectivity in vivo with two-photon imaging and optogenetics  | Silvio Gabriel Temprana  |
| 1044          | Circuit Diagrams        | A metabolic function of the hippocampal sharp wave-ripple  | David Tingley            |
| 1045          | Circuit Diagrams        | Paradoxical effects of GABAergic synaptic transmission in striatal circuits  | Brandon Turner           |
| 1046          | Circuit Diagrams        | Functional and spatial heterogeneity in striatal dopamine release  | Mai-Anh Vu               |
| 1047          | Circuit Diagrams        | Preserving inhibition with a disinhibitory microcircuit in the retina  | Wei Wei                  |
| 1048          | Circuit Diagrams        | Mapping the neural circuitry underlying precise walking kinematics in Drosophila   | Sumaira Zamurrad         |
| 2000          | Monitor Neural Activity | Moving MRI: Imaging a Moving Body with a Moving MRI Magnet   | Jerome Ackerman          |
| 2001          | Monitor Neural Activity | In vivo swine model for mapping focal onset seizures and validating transcranial Acoustoelectric Brain Imaging                                   | Alexander Alvarez        |
| 2002          | Monitor Neural Activity | Studying synaptically evoked cortical responses with combination of a single neuron recording (whole-cell) and population voltage imaging (GEVI) | Srdjan Antic             |
| 2003          | Monitor Neural Activity | Regional synapse gain & loss accompany memory formation in larval zebrafish  | Don Arnold               |
| 2004          | Monitor Neural Activity | Calcium Imaging of neurons in the dorsal horn of the lumbar spinal cord in awake behaving mice   | Adriel Barrios-Anderson  |
| 2005          | Monitor Neural Activity | Emergence of population dynamics causally driving delayed paired associations working memory   | Arash Bellafard          |
| 2006          | Monitor Neural Activity | Expanding field-of-view with reduced tissue displacement in micro-endoscopic computational imaging   | Steve Blair              |
| 2007          | Monitor Neural Activity | A simple model that accounts for the non-linear calcium response of old and new GCaMPs   | Gerard Joey Broussard    |
| 2008          | Monitor Neural Activity | Custom 3d printed electrodes for capturing neural dynamics during unrestrained olfactory behavior  | Morgan Brown             |
| 2009          | Monitor Neural Activity | Novel Pressure Regulating Brain Imaging Implant for Ultra-Large Fieldof View Microscopic Imaging in Non-Human Primates                           | Olivya Caballero         |
| 2010          | Monitor Neural Activity | Trans-Sheet Illumination Microscopy (TranSIM) for decoding whole brain activity at near millisecond temporal resolution                          | Javier Carmona           |
| 2011          | Monitor Neural Activity | Mechanosensory input shapes Drosophila motor behavior through Patterned Spontaneous Network Activity   | Arnaldo Carreira-Rosario |



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| 2012          | Monitor Neural Activity | A signaled locomotor avoidance action is fully represented in the neural activity of the midbrain tegmentum       | Manuel Castro-Alamancos |
| 2013          | Monitor Neural Activity | Parylene Photonics: A fully flexible implantable optoelectrical platform for light delivery and imaging           | Maysam Chamanzar        |
| 2014          | Monitor Neural Activity | Fast volumetric imaging of neural activity in deep brain  | Che-Pin Chang           |
| 2015          | Monitor Neural Activity | Volumetric imaging of synaptic activity at depth by adaptive optical Bessel focus scanning multiphoton microscopy | Wei Chen                |
| 2016          | Monitor Neural Activity | Neural circuitry of predictive coding in mouse visual cortex  | Hannah Choi             |
| 2017          | Monitor Neural Activity | Multi-scale measurements of primate motor cortex during free reaching   | John Choi               |
| 2018          | Monitor Neural Activity | Laminar-specific interhemispheric connectivity mapping with bilateral line-scanning fMRI                          | Sangcheon Choi          |
| 2019          | Monitor Neural Activity | Highly Sensitive Pt-black Electrochemical Sensor for Dual Detection of L-glutamate and GABA                       | Sung Sik Chu            |
| 2020          | Monitor Neural Activity | A resource toolbox for voltage imaging with genetically encoded indicators  | Kevin Colbert           |
| 2021          | Monitor Neural Activity | Clear Optically Matched Panoramic Access Channel Technique (COMPACT) for large-scale deep-brain calcium imaging   | Meng Cui                |
| 2022          | Monitor Neural Activity | Noninvasive long-duration calcium imaging of deep brain   | Meng Cui                |
| 2023          | Monitor Neural Activity | U19 -- Neural basis of causal inference: representations, circuits, and dynamics                                  | Gregory DeAngelis       |
| 2024          | Monitor Neural Activity | A fluorescent sensor for spatiotemporally resolved endocannabinoid dynamics in vitro and in vivo                  | Ao Dong                 |
| 2025          | Monitor Neural Activity | Automatic assembly of the linear high-density carbon fiber microelectrode array                                   | Tianshu Dong            |
| 2026          | Monitor Neural Activity | BOLD fMRI in Mice with Large-Scale Optical Cranial Windows  | Patrick Doran           |
| 2027          | Monitor Neural Activity | Discrimination-generalization schemes in parallel representation of numerous sequential experiences               | George Dragoi           |
| 2028          | Monitor Neural Activity | Resource for Multiphoton Characterization of Genetically-Encoded Probes   | Mikhail Drobizhev       |
| 2029          | Monitor Neural Activity | Coherent beta (15-30 Hz) activity inhibits the exogenous selection in prefrontal cortex                           | Agrita Dubey            |
| 2030          | Monitor Neural Activity | Progress Towards 1mm <sup>3</sup> Resolution for Imaging the Human Brain  | Georges El Fakhri       |



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|---------------|-------------------------|--|---------------------|
| 2031          | Monitor Neural Activity | Investigating the role of the fish amygdala in visually-driven aggressive behavior of Siamese fighting fish      | Claire Everett      |
| 2032          | Monitor Neural Activity | High-speed volumetric two-photon fluorescence imaging of neurovascular dynamics                                  | Jiang Lan Fan       |
| 2033          | Monitor Neural Activity | Modular systems for large scale, long lasting measurements of brain activity                                     | Loren Frank         |
| 2034          | Monitor Neural Activity | Micro-magnetic imaging of neuronal activity: experimental studies  | John S. George      |
| 2035          | Monitor Neural Activity | Fast functional MR as a neuroscientific tool in traditional task designs   | Geoffrey Ghose      |
| 2036          | Monitor Neural Activity | Effects of the estrous cycle on value-based decision-making and dopaminergic signaling                           | Carla Golden        |
| 2037          | Monitor Neural Activity | Advanced light-field imaging and deep learning processing of neural activity                                     | Yiyang Gong         |
| 2038          | Monitor Neural Activity | A wire/wire-free large field of view miniature microscope for imaging neural dynamics in freely behaving animals | Changliang Guo      |
| 2039          | Monitor Neural Activity | Evaluation and resolution of many challenges of neural spike-sorting: a new sorter                               | Nathan Hall         |
| 2040          | Monitor Neural Activity | Large-scale voltage imaging in the brain using targeted illumination   | Xue Han             |
| 2041          | Monitor Neural Activity | Neuropixels NXT: Integrated Silicon Probes for Large Scale Extracellular Recording in Rodents and Primates       | Timothy Harris      |
| 2042          | Monitor Neural Activity | Persistency as a coding mechanism for robust and widely distributed value coding                                 | Ryoma Hattori       |
| 2043          | Monitor Neural Activity | Learning binds new inputs into functional synaptic clusters via spinogenesis                                     | Nathan G. Hedrick   |
| 2044          | Monitor Neural Activity | Identifying the circuit mechanism of a canonical computation in the cerebellar flocculus                         | David Herzfeld      |
| 2045          | Monitor Neural Activity | Longitudinal Assessment of In Vivo Dorsolateral Striatum Activity After Chronic Binge-Like Eating in Mice        | Britny Hildebrandt  |
| 2046          | Monitor Neural Activity | Decoding the neural basis of resting-state functional connectivity mapping                                       | Elizabeth M Hillman |
| 2047          | Monitor Neural Activity | Probing and Understanding Seizure Dynamics in Humans and Rodents and the new field of Organomics                 | Leon Iasmidis       |
| 2048          | Monitor Neural Activity | Multiscale analysis of how the basal ganglia impact cortical processing in behaving mice                         | Dieter Jaeger       |
| 2049          | Monitor Neural Activity | Flexible active electrodes for frequency-multiplexed large-scale neural recording                                | Matt Johnston       |



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|---------------|-------------------------|---|------------------------|
| 2050          | Monitor Neural Activity | Multi-population voltage imaging reveals state-dependent modulation of spiking dynamics in awake animals                              | Madhuvanathi Kannan    |
| 2051          | Monitor Neural Activity | Neuromodulation approaches for restoring dexterous control following cortical stroke  | Preeya Khanna          |
| 2052          | Monitor Neural Activity | Self-Image-Guided Ultrasound Wireless Power Transmission  | Zeinab Kashani         |
| 2053          | Monitor Neural Activity | Miniaturized head-mounted microscope for whole cortex mesoscale imaging in freely behaving mice                                       | Suhasa Kodandaramaiah  |
| 2054          | Monitor Neural Activity | Responsive Neurostimulation for Post-Traumatic Stress Disorder  | Jean-Philippe Langevin |
| 2055          | Monitor Neural Activity | Striatal indirect pathway mediates exploration via modulation of collicular dynamics  | Jaeon Lee              |
| 2056          | Monitor Neural Activity | Design Consideration and Histology of Nanoliter-scale Neural Implants   | Sunwoo Lee             |
| 2057          | Monitor Neural Activity | Juvenile hormone drives the maturation of spontaneous mushroom body neural activity and learned behavior                              | Sarah Leinwand         |
| 2058          | Monitor Neural Activity | Cyborg brain organoids: long-term stable tracing of tissue-wide single-cell electrophysiology over human brain organoid development   | Jia Liu                |
| 2059          | Monitor Neural Activity | New chromophores for FRET-based voltage sensing systems   | Leslie M. Loew         |
| 2060          | Monitor Neural Activity | High-density, long-term recordings of neuronal activity across brain areas in freely behaving animals                                 | Carlos Lois            |
| 2061          | Monitor Neural Activity | Tracing the impact of basal ganglia recipient motor thalamus on motor cortical activity.  | Eduardo Maristany      |
| 2062          | Monitor Neural Activity | Ventral cochlear nucleus bushy cells encode hyperacusis in guinea pigs  | David Martel           |
| 2063          | Monitor Neural Activity | Analysis of simultaneous two-photon imaging and extracellular electrical recordings of in vivo neural activity                        | Connor McCullough      |
| 2064          | Monitor Neural Activity | Nemonic (NExt generation Multiphoton NeuroImaging Consortium) NeuroNex hub: Advancing multiphoton imaging in neuroscience             | Ryan McGreal           |
| 2065          | Monitor Neural Activity | High density multielectrode arrays with spatially selective unidirectional and rotating fields for investigation of neuronal networks | Shalom Michaeli        |
| 2066          | Monitor Neural Activity | Neural dynamics underlying birdsong practice and performance  | Richard Mooney         |
| 2067          | Monitor Neural Activity | Large-scale recordings in Primate Neocortex with Neuropixels  | Tirin Moore            |
| 2068          | Monitor Neural Activity | What is reinforced during skilled action learning?  | Alice Mosberger        |





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|---------------|-------------------------|---|-----------------------|
| 2069          | Monitor Neural Activity | Ultra-compact Magnetolectric Antenna for Simultaneous Energy Harvesting and Magnetic Field Sensing in Brain Implants  | Mehdi Nasrollahpour   |
| 2070          | Monitor Neural Activity | eSEE-SHELLS: Polymer skulls with integrated transparent electrode arrays for cortex-wide opto-electrophysiological recordings                                 | Zahra Navabi          |
| 2071          | Monitor Neural Activity | Precompensation of 3D field distortions in remote focus two-photon microscopy   | Fiona C. Neufeldt     |
| 2072          | Monitor Neural Activity | Using methylphenidate to study the neuronal mechanisms of visual selective attention  | Amy M. Ni             |
| 2073          | Monitor Neural Activity | A mesoscopic light field hard- and software solution enabling fast volumetric calcium imaging across cortical areas   | Tobias Nöbauer        |
| 2074          | Monitor Neural Activity | Oscillating Steady State Imaging (OSSI) for fMRI: 3D Sparse Acquisitions and Model-Based Image Reconstruction   | Douglas Noll          |
| 2075          | Monitor Neural Activity | Single trial decoding of movement intentions using functional ultrasound neuroimaging   | Sumner L Norman       |
| 2076          | Monitor Neural Activity | Prefrontal contributions to phase-dependent representation of visual information  | Behrad Noudoost       |
| 2077          | Monitor Neural Activity | Role of the ER calcium store in hippocampal synaptic plasticity and learning  | Justin O'Hare         |
| 2078          | Monitor Neural Activity | Jaw movement-modulated activity of sensory neurons in the mesencephalic trigeminal nucleus during a directional licking task                                  | William Olson         |
| 2079          | Monitor Neural Activity | Bidirectional control of infant social behavior by dopaminergic innervation of the basolateral amygdala   | Maya Opendak          |
| 2080          | Monitor Neural Activity | A cortical-hypothalamic circuit decodes social rank and promotes dominance behavior   | Nancy Padilla Coreano |
| 2081          | Monitor Neural Activity | Expanding Noninvasive Brain Machine Interface Modalities with Optically Pumped Magnetometers  | Andrew Paek           |
| 2082          | Monitor Neural Activity | 3D Nanoproplet Printed, Fully-Customizable Microelectrode Arrays  | Rahul Panat           |
| 2083          | Monitor Neural Activity | Platinum-decorated Graphenated Carbon Nanotubes for Neurostimulation Electrodes   | Charles Parker        |
| 2084          | Monitor Neural Activity | Closing the Loop on Essential Tremor Using Thalamic and Cortical Control Signals  | Brandon Parks         |
| 2085          | Monitor Neural Activity | Carbon Fiber Electrode Arrays: Past, Present, and Future  | Paras Patel           |
| 2086          | Monitor Neural Activity | Imaging Brain Function with Biomechanics  | Samuel Patz           |
| 2087          | Monitor Neural Activity | 3D Transcranial Ultrasound Localization Microscopy with a Sparse 1024-channel 1.5 MHz Array and Wide Beam Transmit for Primate Imaging During Neuromodulation | Gianmarco Pinton      |



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| 2088          | Monitor Neural Activity | Multidirectional Tuning in Subiculum Neurons Maps Transitions in Trajectories                           | Ryan Place           |
| 2089          | Monitor Neural Activity | Photo-stable, genetically-encoded, voltage indicators for fast two-photon imaging                       | Jelena Platisa       |
| 2090          | Monitor Neural Activity | Acoustoelectric Time-Reversal for Phase-Aberration Correction   | Chet Preston         |
| 2091          | Monitor Neural Activity | All-optical electrophysiology in hiPSC-derived neurons with synthetic voltage sensors                   | Francesca Puppo      |
| 2092          | Monitor Neural Activity | Crosstalk in High-Density Polymer Microelectrode Arrays   | Yi Qiang             |
| 2093          | Monitor Neural Activity | Spinal cord circuit dysfunction underlying over-reactivity to touch in neuropathic pain                 | Genelle Rankin       |
| 2094          | Monitor Neural Activity | Dendritic Representation and Computation in CA3   | Vincent Robert       |
| 2095          | Monitor Neural Activity | Neural sequences for planning and production of learned vocalizations                                   | Todd Roberts         |
| 2096          | Monitor Neural Activity | in vivo calcium imaging with a flat, lensless microscope  | Jacob T. Robinson    |
| 2097          | Monitor Neural Activity | Adaptive optical three-photon fluorescence microscopy for in vivo imaging of the central nervous system | Cristina Rodriguez   |
| 2098          | Monitor Neural Activity | Monitoring functionally distinct neuronal contributions to contextual encoding of sensory stimuli.      | Jordan Ross          |
| 2099          | Monitor Neural Activity | A micro-invasive platform for interstitial fluid sampling and delivery                                  | Erin Rousseau        |
| 2100          | Monitor Neural Activity | Light sheet imaging of cellular dynamics in retinal cell populations                                    | Suva Roy             |
| 2101          | Monitor Neural Activity | Light sheet imaging of cellular dynamics in retinal cell populations.                                   | Suva Roy             |
| 2102          | Monitor Neural Activity | Novel Inkjet Printed Flexible High Performance Neural Interface   | Sahera Saleh         |
| 2103          | Monitor Neural Activity | Connectomes across development reveal principles of brain maturation                                    | Aravinthan Samuel    |
| 2104          | Monitor Neural Activity | Neuropixels in the mouse cerebellar cortex  | Alvaro Sanchez-Lopez |
| 2105          | Monitor Neural Activity | The Polymer Implantable Electrode Foundry: A Shared Resource for Polymer Microelectrode Arrays          | Kee Scholten         |
| 2106          | Monitor Neural Activity | Intracellular calcium sensing with molecular fMRI   | Miriam Schwalm       |



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| 2107          | Monitor Neural Activity | Brain-wide visual and auditory networks in zebrafish  | Ethan Scott          |
| 2108          | Monitor Neural Activity | Population coding in the cerebellum during saccadic eye movements   | Ehsan Sedaghat-Nejad |
| 2109          | Monitor Neural Activity | Effects of standard fMRI calibrations on the diverse microvascular blood flow and oxygenation responses in cortical layers                        | Ikbal Sencan         |
| 2110          | Monitor Neural Activity | Markerless Tracking of 3D Body Posture with Geometric Deep Learning   | Kyle Severson        |
| 2111          | Monitor Neural Activity | Coding of anxiety states by coordinated neural ensembles in the mPFC  | Garima Shah          |
| 2112          | Monitor Neural Activity | Photoswitchable bioluminescent optogenetics tools   | Nathan Shaner        |
| 2113          | Monitor Neural Activity | A system for whole-brain labeling of activated neurons with near-infrared light   | Daria Shcherbakova   |
| 2114          | Monitor Neural Activity | Wide Deployment of Massively Multiplexed Nanosystems for Brain Activity Mapping   | Kenneth Shepard      |
| 2115          | Monitor Neural Activity | Live imaging of adult and embryonic immune cell surveillance and injury response in the choroid plexus barrier                                    | Frederick Shipley    |
| 2116          | Monitor Neural Activity | Testing predictions of a primacy model for intensity-invariant odor coding by imaging sensory inputs to functionally-defined glomeruli            | Shaina Short         |
| 2117          | Monitor Neural Activity | The Open Ephys GUI: A collaboratively developed platform for high-channel-count electrophysiology data acquisition                                | Joshua H. Siegle     |
| 2118          | Monitor Neural Activity | Imaging circuit function across multiple scales with non-linear acousto-optic lens microscopy   | Angus Silver         |
| 2119          | Monitor Neural Activity | Behavioral algorithms and neural mechanisms of olfactory search by freely-moving mice   | Matthew Smear        |
| 2120          | Monitor Neural Activity | How does gamma-frequency synchronization organize prefrontal cell-types?  | Vikaas Sohal         |
| 2121          | Monitor Neural Activity | Speckle-based fluorescent target localization and functional signal recovery through scattering media   | Fernando Soldevila   |
| 2122          | Monitor Neural Activity | Thalamocortical state control of tactile sensing: Mechanisms, Models, and Behavior  | Garrett B. Stanley   |
| 2123          | Monitor Neural Activity | NeuropixelsUltra: Dense arrays for stable, unbiased, and cell type-specific electrical imaging  | Nicholas Steinmetz   |
| 2124          | Monitor Neural Activity | WITHDRAWN   |                      |
| 2125          | Monitor Neural Activity | Long-term monitoring of oxygenation levels around chronically implanted micro-scale neural interfaces using a novel MRI-based oximetry technique. | Yuka Sugamura        |



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| 2126          | Monitor Neural Activity | Sensation and the perception of movement: insight from the fruit fly antennae  | Marie Suver           |
| 2127          | Monitor Neural Activity | Reproducibility of Large-Scale Neuronal Recordings During Perceptual Decision-Making   | Marsa Taheri          |
| 2128          | Monitor Neural Activity | The role of inhibition in shaping hippocampal memory-encoding representations  | Jiannis Taxis         |
| 2129          | Monitor Neural Activity | Linking neural recordings from the synaptic to whole-brain levels through a refractoriness-based model of excitability                                     | Tobias Teichert       |
| 2130          | Monitor Neural Activity | Optically activated, customizable, excitable cells   | Merrilee Thomas       |
| 2131          | Monitor Neural Activity | Multimodal monitoring of human cortical organoids implanted in mice using transparent graphene microelectrode arrays                                       | Martin Thunemann      |
| 2132          | Monitor Neural Activity | Npas4-induced expression of Gem GTPase promotes activity-dependent neuronal tolerance for ischemic stroke  | Akio Tsuboi           |
| 2133          | Monitor Neural Activity | Progress toward genetic access to recently activated neurons using a light-induced recombination approach  | Chandra Tucker        |
| 2134          | Monitor Neural Activity | Dissipative soliton generation and fiber amplification for two-photon imaging  | Ahmet Turnali         |
| 2135          | Monitor Neural Activity | Drosophila visual projection neuron population responses jointly encode diverse visual scenes  | Max Turner            |
| 2136          | Monitor Neural Activity | Characterizing the inputs to the rodent head direction system  | Matthijs van der Meer |
| 2137          | Monitor Neural Activity | Towards Whole-Cortical Cellular Resolution Recording of Neuroactivity  | Alipasha Vaziri       |
| 2138          | Monitor Neural Activity | A wearable, modular, fiberless, bendable, and 3-D aware functional near-infrared spectroscopy system   | Morris Venegas        |
| 2139          | Monitor Neural Activity | Engineering of near-infrared genetically encoded calcium indicators for in vivo imaging.   | Vladislav Verkhusha   |
| 2140          | Monitor Neural Activity | Pan-cortical state dependent activity and functional connectivity exhibit complex spatiotemporal structure during spontaneous and stimulus-evoked behavior | Evan Vickers          |
| 2141          | Monitor Neural Activity | Implantable neural probe for monitoring neurochemistry   | Yurii Vlasov          |
| 2142          | Monitor Neural Activity | Multiplexed Data Readout for Massively Scaled Electrode Arrays   | Ross Walker           |
| 2143          | Monitor Neural Activity | Improved genetically encoded GRAB5-HT and GRABACH sensors for measuring their dynamics in vitro and in vivo  | Jinxia Wan            |
| 2144          | Monitor Neural Activity | A family of sensitive and specific genetically-encoded GRAB sensors for measuring neuropeptides dynamics   | Huan Wang             |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                | POSTER TITLE   | PRESENTER      |
|---------------|-------------------------|--|----------------|
| 2145          | Monitor Neural Activity | Electrocortical stimulation (ECS) of sensorimotor cortex (SMC) in rats affects Gabrb2 and Slc17a6 gene transcription in lumbar spinal cord | Yu Wang        |
| 2147          | Monitor Neural Activity | www.3photon.org provides information about 3-photon excitation.  | Jack Waters    |
| 2148          | Monitor Neural Activity | Measurement of Npas4 and cFos for Brain-Wide Snapshots of Neuronal Activity  | Damian Wheeler |
| 2149          | Monitor Neural Activity | Continuously monitoring brain cell sub-population viability dynamics using an autonomously activating bioluminescent reporter system       | Mark Wienhold  |
| 2150          | Monitor Neural Activity | Spontaneous and reversible remapping of neural representations in unchanging environments  | Alex Williams  |
| 2151          | Monitor Neural Activity | Optimization and Delivery of Bioactive Coating for High Yield and Stable Neural Recording  | Kevin Woeppel  |
| 2152          | Monitor Neural Activity | SID - Bio-FlatScope: a flat, lensless imaging hardware and software solution for calcium imaging   | Jimin Wu       |
| 2153          | Monitor Neural Activity | An ultrasensitive GRAB sensor for detecting extracellular ATP in vitro and in vivo   | Zhaofa Wu      |
| 2154          | Monitor Neural Activity | Maximizing flexibility: Optimized neural probes and electronics for long term, high bandwidth recordings                                   | Chong Xie      |
| 2155          | Monitor Neural Activity | A new uncaging strategy using photosensitive nanovesicles for modulation of targeted neural circuits                                       | Hejian Xiong   |
| 2156          | Monitor Neural Activity | Multi-color three-photon fluorescence imaging with single-wavelength excitation deep in mouse brain  | Chris Xu       |
| 2157          | Monitor Neural Activity | Close-packed PEDOT:PSS-coated graphene microelectrodes for high-resolution interrogation of neural activity                                | Guangyu Xu     |
| 2158          | Monitor Neural Activity | Multi-shank Parylene Penetrating Probe for Brain Research  | Huijing Xu     |
| 2159          | Monitor Neural Activity | Sleep restores an optimal computational regime in diverse circuits throughout the brain.   | Yifan Xu       |
| 2160          | Monitor Neural Activity | NeuroPhotonic Interface for Bio-Electronic Recording   | Ruidong Xue    |
| 2161          | Monitor Neural Activity | Volumetric fluorescence imaging with a wearable Computational Miniature Mesoscope  | Yujia Xue      |
| 2162          | Monitor Neural Activity | GEOMScope: Large field-of-view 3D lensless microscope with low computational complexity  | Weijian Yang   |
| 2163          | Monitor Neural Activity | Large-field-of-view high-throughput two-photon endoscope to image neuronal activity  | Weijian Yang   |
| 2164          | Monitor Neural Activity | Head-mounted Photoacoustic Microscopy of Functional Brain Activities on Freely-behaving Mice   | Junjie Yao     |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                | POSTER TITLE   | PRESENTER           |
|---------------|-------------------------|--|---------------------|
| 2165          | Monitor Neural Activity | Ultra-fast Super-Wide-field Photoacoustic Microscopy of Functional Brain Activities                              | Junjie Yao          |
| 2166          | Monitor Neural Activity | Multi-beam ultra-fast two-photon microscope for population-level voltage imaging in mouse cortex                 | Xin Ye              |
| 2167          | Monitor Neural Activity | HectoSTAR microLED optoelectrodes for large-scale high-precision opto-electrophysiology                          | Euisik Yoon         |
| 2168          | Monitor Neural Activity | 3D printing of micro-electrode arrays via two-photon lithography.  | Kara Zappitelli     |
| 2169          | Monitor Neural Activity | Multielectrode Arrays for Neurotransmitter Detection with Fast Scan Cyclic Voltammetry                           | Alexander G. Zestos |
| 2170          | Monitor Neural Activity | Gaining insight into the neural basis of resting-state fMRI signal   | Nanyin Zhang        |
| 2171          | Monitor Neural Activity | High-resolution in vivo optical-sectioning widefield microendoscopy  | Qinrong Zhang       |
| 2172          | Monitor Neural Activity | Nucleus accumbens population neural dynamics encoding social interactions  | Pingping Zhao       |
| 2173          | Monitor Neural Activity | Improved GRAB sensors for monitoring dopamine dynamics in vitro and in vivo                                      | Yizhou Zhuo         |
| 3000          | Interventional Tools    | Improving Selectivity with Intrafascicular Stimulation: Computational and Experimental Studies                   | James Abbas         |
| 3001          | Interventional Tools    | High-speed high-throughput volumetric all-optical interrogation of neural circuits                               | Lamiae Abdeladim    |
| 3002          | Interventional Tools    | Biology and Biophysics of the Cortical Response to TMS: Coupled Electric Field and Neuron Modeling               | Aman Aberra         |
| 3003          | Interventional Tools    | State dependent neural mechanisms of transcranial alternating current stimulation                                | Ivan Alekseichuk    |
| 3004          | Interventional Tools    | Transgenic Line for High-Precision, All-Optical Manipulation and Monitoring of Neural Activity                   | Hayley Bounds       |
| 3005          | Interventional Tools    | Assessing the response of neurons to ultrasound at different scales  | Charles F. Caskey   |
| 3006          | Interventional Tools    | Non-invasive control using Sonogenetics  | Sreekanth Chalasani |
| 3007          | Interventional Tools    | Optimal Positioning of Deep Brain Stimulation Leads into VIM and VO Thalamus in Severe Essential Tremor Patients | Nicole Chambers     |
| 3008          | Interventional Tools    | Sonogenetics for noninvasive cell-type-specific control of rodent brain  | Hong Chen           |
| 3009          | Interventional Tools    | Hardware Interface for Real-Time Calcium Imaging and Neural Population Decoding with the UCLA Miniscope          | Zhe Chen            |



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| POSTER NUMBER | CATEGORY             | POSTER TITLE   | PRESENTER                |
|---------------|----------------------|--|--------------------------|
| 3010          | Interventional Tools | In vivo testing of the Utah Optrode Array: large scale, spatially selective optogenetic stimulation of deep cortical layers in non-human primate cortex  | Andrew Clark             |
| 3011          | Interventional Tools | A photoswitchable GPCR-based opsin for presynaptic inhibition  | Bryan Copits             |
| 3012          | Interventional Tools | Linking Hippocampal Replay Content to Learning and Decision-Making   | Michael Coulter          |
| 3013          | Interventional Tools | Machine Learning for Over-ground Walking Using Intraspinal Microstimulation  | Ashley Dalrymple         |
| 3014          | Interventional Tools | Impact of Timing, Targeting, and Brain State on rTMS of Human and Non-Human Primates   | Simon Davis              |
| 3015          | Interventional Tools | MP-D: cell-specific molecular gating of dopamine circuits  | Prashant Donthamsetti    |
| 3016          | Interventional Tools | Low Frequency Focused Ultrasound for Noninvasive Suppression of Pain Related Potentials in the Reflex Arc<br>Low Frequency Focused Ultrasound for Noninvasive Suppression of Pain Related Potentials in the Reflex Arc | Rima El Hassan           |
| 3017          | Interventional Tools | Restoring Functional Walking in Animals with Complete Chronic Spinal Cord Injury using Intraspinal Microstimulation  | Pouria Faridi            |
| 3018          | Interventional Tools | Hippocampal replay reflects specific past experiences rather than a plan for subsequent choice   | Anna Gillespie           |
| 3019          | Interventional Tools | Closed loop deep brain stimulation in Parkinson's disease - comparison of three embedded adaptive DBS algorithms during activities of daily living   | Roe Gilron               |
| 3020          | Interventional Tools | MPS-TMS: Modular Pulse Synthesizer for Transcranial Magnetic Stimulation with Fully Adjustable Pulse Shape and Sequence  | Stefan Goetz             |
| 3021          | Interventional Tools | Accurate and reliable computational dosimetry and targeting for transcranial magnetic stimulation  | Luis Gomez               |
| 3022          | Interventional Tools | A flexible origami opto-electro array for in vivo optogenetic stimulation and electrophysiology recordings from dorsal root ganglion   | Yan Gong                 |
| 3023          | Interventional Tools | Molecular Engineering of Anion Channelrhodopsin Color Tuning and Other Properties for Optogenetic Inhibition   | Elena Govorunova         |
| 3024          | Interventional Tools | FERIC-BASED MAGNETOGENETICS: EVALUATION OF METHODS AND PROTOCOLS IN IN VITRO MODELS  | Miriam Hernandez-Morales |
| 3025          | Interventional Tools | Proximity Photopharmacology for the Optical Control of Dopamine Receptors  | Belinda Hetzler          |
| 3026          | Interventional Tools | Selective Control of Synaptically-Connected Circuit Elements by Interluminescence  | Ute Hochgeschwender      |
| 3027          | Interventional Tools | Bidirectional Hybrid Electrical-Acoustic Platform for Large-Scale Neural Recording and Modulation  | Sheikh Ilham             |
| 3028          | Interventional Tools | Photoactivated proteolysis targeting chimeras (PHOTACs) for light-activated degradation of specific synaptic proteins in hippocampal tissue  | Claudia Jou              |



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| POSTER NUMBER | CATEGORY             | POSTER TITLE   | PRESENTER                 |
|---------------|----------------------|--|---------------------------|
| 3029          | Interventional Tools | A photoactivatable opioid agonist and antagonist for in vivo photopharmacology   | Desiree Johnson           |
| 3030          | Interventional Tools | Genetically targeted and consequential astrocyte Gq GPCR signaling attenuation in vivo   | Baljit Khakh              |
| 3031          | Interventional Tools | Neuromodulation of cortical and thalamic motor areas in awake sheep using transcranial focused ultrasound                                      | Hyun-Chul Kim             |
| 3032          | Interventional Tools | Transcranial magnetic stimulator with programmable pulse waveform and low acoustic noise   | Lari Koponen              |
| 3033          | Interventional Tools | TRPswitch—A Step-Function Chemo-optogenetic Ligand for the Vertebrate TRPA1 Channel  | Pui Ying Lam              |
| 3034          | Interventional Tools | Ultrasound Neurostimulation in ex vivo Sea Slug Brains   | Geoffrey Luke             |
| 3035          | Interventional Tools | Piezoelectric Nanotransducers for Enhanced Ultrasound Neurostimulation   | Geoffrey Luke             |
| 3036          | Interventional Tools | Wavelength optimization for detecting hypoxia in photoacoustic imaging of neonatal brain   | Rayyan Manwar             |
| 3037          | Interventional Tools | Engineering a Template-Independent DNA polymerase for Temporal Recording of Calcium into DNA   | Marija Milisavljevic      |
| 3038          | Interventional Tools | Stretchable coiled cable as strain relief-mechanism for Intraspinal Microstimulation Implants  | Soroush Mirkiani          |
| 3039          | Interventional Tools | Bioluminescence for Optimal Brain Control and Imaging  | Christopher I. Moore, PhD |
| 3040          | Interventional Tools | Rapid and accurate semi-automated labeling of cortical layers in MRI using SmartInterpol   | Jocelyn Mora              |
| 3041          | Interventional Tools | Studying Transcranial Magnetic Stimulation (TMS) mechanisms across scales  | Nipun Perera              |
| 3042          | Interventional Tools | Transcranial Magnetic Stimulation Coils with Enhanced Focality and Depth (fdTMS)   | Angel Peterchev           |
| 3043          | Interventional Tools | CaMKII-dependent synaptic plasticity in vCA1 is necessary for social recognition learning  | Mary Phillips             |
| 3044          | Interventional Tools | In vivo high-efficiency all-optical interrogation of neuronal circuits using blue light-sensitive opsins and red-shifted functional indicators | Matteo Pisoni             |
| 3045          | Interventional Tools | Wireless Reconfigurable RF Detector Array for Focal and Multiregional Signal Enhancement   | Chunqi Qian               |
| 3046          | Interventional Tools | Development and Characterization of a Novel Implant for Spatially Selective Deep Layer Optogenetic Stimulation: The Utah Optrode Array         | Christopher Reiche        |
| 3047          | Interventional Tools | Non-Invasive Nanoparticle Platform for Tool Delivery to the Brain  | Julien Rossignol          |





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| POSTER NUMBER | CATEGORY             | POSTER TITLE  | PRESENTER         |
|---------------|----------------------|---|-------------------|
| 3048          | Interventional Tools | Intraspinal Microstimulation using Laser-Microfabricated Polymer Multielectrodes  | David A. Roszko   |
| 3049          | Interventional Tools | Stimulation of Cerebellar Purkinje Cells Using Pulsed Ultrasonic Stimulation  | Mesut Sahin       |
| 3050          | Interventional Tools | Demixing speckle-encoded calcium activity signals from scattering cortical tissue   | Hossein Sarafraz  |
| 3051          | Interventional Tools | Central thalamic brain stimulation improves executive function and mental fatigue in severe to moderate traumatic brain injury                    | Nicholas Schiff   |
| 3052          | Interventional Tools | An optogenetic tool for acute modulation of inhibitory synapse function   | Samantha Schwartz |
| 3053          | Interventional Tools | Sub-second multi-channel magnetic control of select neural circuits in behaving flies   | Charles Sebesta   |
| 3054          | Interventional Tools | Deep brain stimulation for treatment-resistant depression informed by intracranial stereo-electroencephalography                                  | Sameer Sheth      |
| 3055          | Interventional Tools | Brain-Responsive Neurostimulation for Treatment-Refractory Obesity: Early Feasibility Study   | Rajat Shivacharan |
| 3056          | Interventional Tools | Biology and Biophysics of the Cortical Response to TMS: In Vivo Studies   | Marc Sommer       |
| 3057          | Interventional Tools | Expanding the optogenetic toolkit for spatially and temporally precise perturbations of large neuronal networks                                   | Savitha Sridharan |
| 3058          | Interventional Tools | OpenMind: Consortium-based resource exchange to accelerate research with next-generation implantable bidirectional neural interfaces              | Philip Starr      |
| 3059          | Interventional Tools | Microelectrode Arrays Insertion System Using Ultrasonic Vibration to Improve Insertion Mechanics, Reduce Tissue Dimpling and Trauma in the Cortex | Natasha Tirko     |
| 3060          | Interventional Tools | The IntraCortical Visual Prosthesis (ICVP): Transition to the Clinical Trial  | Philip Troyk      |
| 3061          | Interventional Tools | Further optimizing a phototriggered botulinum toxin for extended neuronal silencing   | Chandra Tucker    |
| 3062          | Interventional Tools | Optical Control of Actin Dynamics with Small Molecule Photoswitches   | Nynke Veprek      |
| 3063          | Interventional Tools | Enhancement of metabolic, hemodynamic and electrophysiologic activities in the human brain by transcranial photobiomodulation with 1064-nm laser  | Xinlong Wang      |
| 3064          | Interventional Tools | Noninvasive Interventions of Deep Brain Circuits in Behaving Primates   | Taylor Webb       |
| 3065          | Interventional Tools | Supervision by Denoising for Medical Segmentation   | Sean Young        |
| 3066          | Interventional Tools | A soft neural probe for real-time monitoring of neurotransmitters in vivo   | Yi Zhang          |



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| POSTER NUMBER | CATEGORY                       | POSTER TITLE  | PRESENTER          |
|---------------|--------------------------------|---|--------------------|
| 3067          | Interventional Tools           | Multimodal evaluation of stimulation stability and safety of PEDOT/CNT and IrOx electrodes                                  | Sally Zheng        |
| 4000          | Theory & Data Analysis Tools   | Using Machine Learning to Predict Neurobiological Network Behavior from Data Alone  | Henry Abarbanel    |
| 4001          | Theory & Data Analysis Tools   | Discovering behavioral variables from multi-electrode LFP recordings  | Gautam Agarwal     |
| 4002          | Theory & Data Analysis Tools   | Data mining using NeuroMorpho.Org enables classification of neurons and glia  | Masood A. Akram    |
| 4003          | Theory & Data Analysis Tools   | Interactive Database for 2-Photon-Based Oxygen Phosphorescence Lifetime Imaging Data  | Layth Amra         |
| 4004          | Theory & Data Analysis Tools   | Computing the spatial location and orientation of neurons at the mesoscopic scale of mouse whole brain images               | Adrian Arias Abreu |
| 4005          | Theory & Data Analysis Tools   | Towards multipurpose bio-realistic models of reconstructed cortical tissue  | Anton Arkhipov     |
| 4006          | Theory & Data Analysis Tools   | Using DeepLabCut To Predict Locations of Subdermal Landmarks From Video   | Diya Basrai        |
| 4007          | Theory & Data Analysis Tools   | Competing models of mouse switching behavior during probabilistic decision making   | Celia Beron        |
| 4008          | Theory & Data Analysis Tools   | Torque Values About Artificial Knee Using Braided Pneumatic Actuators   | Ben Bolen          |
| 4009          | Theory and Data Analysis Tools | Convergent Cross Sorting for Estimating Dynamic Coupling  | Leo Breston        |
| 4010          | Theory & Data Analysis Tools   | BCI2000: Software Resource for Adaptive Neurotechnology Research  | Peter Brunner      |
| 4011          | Theory & Data Analysis Tools   | GlowTrack: Markerless capture of rodent pose that generalizes across experiments  | Daniel Butler      |
| 4012          | Theory & Data Analysis Tools   | Identifying Autism-Specific Neural Signatures with Adversarial Machine Learning   | William Carson     |
| 4013          | Theory & Data Analysis Tools   | Supercomputers, Neuron Simulations and Reverse Engineering of Neuron Firing Patterns  | Matthieu Chardon   |
| 4014          | Theory & Data Analysis Tools   | Explainable deep learning to understand neural visual code  | Rong Chen          |
| 4015          | Theory & Data Analysis Tools   | Sensing and deconvolving membrane voltage activity using coded staggered exposure of genetically-encoded voltage indicators | Peter Chin         |
| 4016          | Theory & Data Analysis Tools   | Eye tracking to detect behavioral seizures in a nonhuman primate model of temporal lobe epilepsy                            | Mark Connolly      |
| 4017          | Theory & Data Analysis Tools   | Robust Criticality Due to Intrinsic Excitability and Neuronal History Dependence  | Antonio Coronel    |



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| POSTER NUMBER | CATEGORY                     | POSTER TITLE  | PRESENTER        |
|---------------|------------------------------|---|------------------|
| 4018          | Theory & Data Analysis Tools | Using Deep Learning to Understand Emergent Sensory Coding in Auditory Cortex                          | Stephen David    |
| 4019          | Theory & Data Analysis Tools | A local investigation of cortical thickness in relationship to cortical morphology                    | Nagehan Demirci  |
| 4020          | Theory & Data Analysis Tools | Analyzing the performance of two-layer CPG in different sets of neural parameters and inputs          | Kaiyu Deng       |
| 4021          | Theory & Data Analysis Tools | Advancing standardization of neurophysiology data through dissemination of NWB                        | Benjamin Dichter |
| 4022          | Theory & Data Analysis Tools | Fast and statistically robust cell extraction from large-scale neural calcium imaging datasets        | Fatih Dinc       |
| 4023          | Theory & Data Analysis Tools | Cellular mechanisms behind stimulus evoked quenching of variability                                   | Brent Doiron     |
| 4024          | Theory & Data Analysis Tools | A Platform for Acoustical Analysis to Explore Voice Pathology Screening                               | Colin Drummond   |
| 4025          | Theory & Data Analysis Tools | Sensorimotor Rhythm Modulation Characterized Using Various Electroencephalographic Signal Derivations | Stephen Dundon   |
| 4026          | Theory & Data Analysis Tools | Building invariances into neural decoding through adaptive self-alignment                             | Eva Dyer         |
| 4027          | Theory & Data Analysis Tools | Improving laser standards for three-photon microscopy   | Deano Farinella  |
| 4028          | Theory & Data Analysis Tools | Measuring consistency in high frequency oscillation markings using neural networks                    | Ebrahim Fegghi   |
| 4029          | Theory & Data Analysis Tools | Directed Communication Measures Uncover Latent Networks of Neural Populations                         | Neil Gallagher   |
| 4030          | Theory & Data Analysis Tools | Iterative single-cell multi-omic integration using online learning                                    | Chao Gao         |
| 4031          | Theory & Data Analysis Tools | DANDI: An Archive and Collaboration Space for Cellular Neurophysiology Projects                       | Satrajit Ghosh   |
| 4032          | Theory & Data Analysis Tools | Nobrainer: A robust and validated neural network tool suite for imagers                               | Satrajit Ghosh   |
| 4033          | Theory & Data Analysis Tools | Measurement of inter-item dependence during multi-item memory   | Charles Holmes   |
| 4034          | Theory & Data Analysis Tools | Computational Model for Multichannel Acoustoelectric Brain Imaging                                    | Chiao Huang      |
| 4035          | Theory & Data Analysis Tools | Metadata and Laboratory Standards for Brain 3D Microscopy   | Wayne Huggins    |
| 4036          | Theory & Data Analysis Tools | Behavioral task requiring rapid shifts in context-dependent sensory valuations                        | Daniel Hulsey    |



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| POSTER NUMBER | CATEGORY                     | POSTER TITLE   | PRESENTER          |
|---------------|------------------------------|--|--------------------|
| 4037          | Theory & Data Analysis Tools | Geometry of interactions in biologically realistic models  | Ramakrishnan Iyer  |
| 4038          | Theory & Data Analysis Tools | HNN-core: an open-source Pythonic interface to the Human Neocortical Neurosolver (HNN) software for cellular and network interpretation of human MEG and EEG signals | Mainak Jas         |
| 4039          | Theory & Data Analysis Tools | A Web-Based Portal for Workflow Deployment to Enhance the Scalable Analytics for Brain Exploration Research (SABER) System   | Erik C Johnson     |
| 4040          | Theory & Data Analysis Tools | Understanding neural interactions across scales  | Krešimir Josić     |
| 4041          | Theory & Data Analysis Tools | Neuroimaging Data Analysis Toolbox: Surface-based Mixed-Effects Multilevel Analysis  | Cihan Kadipasaoglu |
| 4042          | Theory & Data Analysis Tools | A universal description language for behavioral tasks  | Adam Kepecs        |
| 4043          | Theory & Data Analysis Tools | Clustering Neuron Terminals to Classify Branches of Axonal Arbors  | Alisha Kodibagkar  |
| 4044          | Theory & Data Analysis Tools | M2G: A low-resource reliable pipeline to democratize multi-modal connectome estimation and analysis  | Ross Lawrence      |
| 4045          | Theory & Data Analysis Tools | Removing independent noise in systems neuroscience data using DeepInterpolation  | Jerome Lecoq       |
| 4046          | Theory & Data Analysis Tools | Hidden Markov Modeling of multi single unit activity during metastable activity  | Tianshu Li         |
| 4047          | Theory & Data Analysis Tools | Spontaneous global brain events marked by sequenced cascades of spiking neurons  | Xiao Liu           |
| 4048          | Theory & Data Analysis Tools | GUI-driven clustering of group-level intracranial EEG data in RAVE   | John Magnotti      |
| 4049          | Theory & Data Analysis Tools | Neuroscience Gateway Enabling Large Scale Neuroscience Computing and Software Dissemination  | Amitava Majumdar   |
| 4050          | Theory & Data Analysis Tools | Symmetries and synchronization in the connectome   | Hernan Makse       |
| 4051          | Theory & Data Analysis Tools | Morphological perturbations in CA1 neurons of TgDyrk1A mice in a multi-compartmental computational model are sufficient to alter precise gamma oscillations          | Linus Manubens-Gil |
| 4052          | Theory & Data Analysis Tools | Recut: A Parallel Streaming Framework for Sparse Neural Reconstruction   | Karl Marrett       |
| 4053          | Theory & Data Analysis Tools | The role of cross-frequency coupling in memory consolidation   | Andrei Medvedev    |
| 4054          | Theory & Data Analysis Tools | A model of naturalistic decision making in preference tests  | Paul Miller        |
| 4055          | Theory & Data Analysis Tools | Validating the interleaved memory reactivation hypothesis of Complementary Learning Systems Theory   | Michael Moore      |



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| POSTER NUMBER | CATEGORY                       | POSTER TITLE   | PRESENTER              |
|---------------|--------------------------------|--|------------------------|
| 4056          | Theory & Data Analysis Tools   | syGlass + bossDB: serving cloud-based volumetric data to local virtual reality devices for exploration, insight, and communication   | Michael Morehead       |
| 4057          | Theory & Data Analysis Tools   | Characterization of dynamic community detection in functional temporal networks derived from neuroimaging data   | Sarah Muldoon          |
| 4058          | Theory & Data Analysis Tools   | Real-time Bayesian signal processing for analyzing and controlling neural populations  | Josue Nassar           |
| 4059          | Theory and Data Analysis Tools | Sharing Community Knowledge with Addgene's AAV Data Hub: A Call to Action!   | Jason Nasse            |
| 4060          | Theory & Data Analysis Tools   | New theoretical approaches to coarse-graining neural data  | Stephanie Palmer       |
| 4061          | Theory & Data Analysis Tools   | Nonparametric MANOVA via Independence Testing  | Sambit Panda           |
| 4062          | Theory & Data Analysis Tools   | Inferring network dynamics from calcium imaging with sub-frame temporal resolution via deep learning   | Chethan Pandarinath    |
| 4063          | Theory & Data Analysis Tools   | The assembly calculus: computation in the brain, learning, and language.   | Christos Papadimitriou |
| 4064          | Theory & Data Analysis Tools   | Democratizing access to storage and computing resources via new data compression and streaming technology.   | Valerio Pascucci       |
| 4065          | Theory & Data Analysis Tools   | Low-dimensional learned feature spaces quantify individual and group differences in vocal repertoires  | John Pearson           |
| 4066          | Theory & Data Analysis Tools   | CellExplorer: a framework for visualizing and characterizing single neurons  | Peter Petersen         |
| 4067          | Theory & Data Analysis Tools   | Rethinking lapses: identifying latent states from decision-making behavior   | Jonathan Pillow        |
| 4068          | Theory & Data Analysis Tools   | Choice tuned inhibition in decision-making circuits supports winner-take-all decisions   | James Roach            |
| 4069          | Theory & Data Analysis Tools   | Closed-Loop Computational Neuroscience for Causally Dissecting Circuits  | Christopher J Rozell   |
| 4070          | Theory & Data Analysis Tools   | Enhancing standardization of neurophysiology data through integration of experiment metadata and ontologies with NWB   | Oliver Ruebel          |
| 4071          | Theory & Data Analysis Tools   | Electric Field, Current Density and Conductivity Mapping in Transcranial Electrical Stimulation (TES) using magnetic resonance methods, and correlations with functional Magnetic Resonance Imaging measures in a 3-back memory task | Rosalind Sadleir       |
| 4072          | Theory & Data Analysis Tools   | Computational Analysis of Off-target Ultrasound Neuromodulation Effects in a Mouse Subject   | Hossein Salahshoor     |
| 4073          | Theory & Data Analysis Tools   | The fish, the circuit, and their history: optimal coding and complex spiking in hardware implementations of fractional order neuronal dynamics   | Fidel Santamaria       |
| 4074          | Theory & Data Analysis Tools   | Comparative analysis of optogenetic modulation of neural activity in mouse and monkey visual cortex  | Alessandro Sanzeni     |



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| POSTER NUMBER | CATEGORY                     | POSTER TITLE   | PRESENTER                 |
|---------------|------------------------------|--|---------------------------|
| 4075          | Theory & Data Analysis Tools | Prosthetic control of movement via task-specific neural dynamics   | Karen Schroeder           |
| 4076          | Theory & Data Analysis Tools | Stable recalibration of path integration requires neural representation of error   | Gorkem Secer              |
| 4077          | Theory & Data Analysis Tools | Embedding Disentangled Animal Behavior from Videos   | Changhao Shi              |
| 4078          | Theory & Data Analysis Tools | Extending SimNIBS to integrate non-invasive brain stimulation with functional imaging data and primate head segmentation                                   | Sina Shirinpour           |
| 4079          | Theory & Data Analysis Tools | An Integrative Multimodal Framework for Single-Subject Brain Modeling across Scales and Tasks  | Matthew Singh             |
| 4080          | Theory & Data Analysis Tools | Neuron Segmentation and Voxel Classification with Microsoft InnerEye   | Shreya Singh              |
| 4081          | Theory & Data Analysis Tools | Network Localized Granger Causality Inference: Performance Evaluation and Application to MEG Data  | Behrad Soleimani          |
| 4082          | Theory & Data Analysis Tools | The Next-Generation Neural Data Analysis (NGNDA) Platform: A Novel Research Tool for Big Data Investigators in the Neurosciences                           | Caterina Stamoulis        |
| 4083          | Theory & Data Analysis Tools | Data Archive for the BRAIN Initiative (DABI): Harmonization of Multimodal Intracranial Data  | Priyanka Subash           |
| 4084          | Theory & Data Analysis Tools | Estimating a Brain Network Predictive of Stress and Genotype with Supervised Autoencoders  | Austin Talbot             |
| 4085          | Theory & Data Analysis Tools | Early stopping with real-time fMRI   | Curtis Tatsuoka           |
| 4086          | Theory & Data Analysis Tools | Micro-Magnetic Imaging of Neuronal Activity: Modeling Studies III  | Bryan Travis              |
| 4087          | Theory & Data Analysis Tools | Impulsive Control on The Stability of Fractional Lotka-Volterra Type Cooperative Models  | Rohisha Tuladhar          |
| 4088          | Theory & Data Analysis Tools | DATA INTERFACE AND APPS FOR SYSTEMS NEUROPHYSIOLOGY AND IMAGING  | Stephen D. Van Hooser     |
| 4089          | Theory & Data Analysis Tools | A Quality Compute Engine for the Automatic Assessment of Connectome Data   | Marisel Villafane-Delgado |
| 4090          | Theory & Data Analysis Tools | The importance of spatially dependent neuronal interactions in modeling cortical activity during unconstrained ethological motor behaviors in the marmoset | Jeff Walker               |
| 4091          | Theory & Data Analysis Tools | Waveform Optimization for Modular Pulse Synthesizer Transcranial Magnetic Stimulation  | Boshuo Wang               |
| 4092          | Theory & Data Analysis Tools | bossDB: A scalable, highly accessible data archive for electron microscopy and X-ray microtomography   | Brock Wester              |
| 4093          | Theory & Data Analysis Tools | Hippocampome.org - a simulation-ready knowledge base of the hippocampal neuron-type circuit  | Diek Wheeler              |



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| POSTER NUMBER | CATEGORY                     | POSTER TITLE   | PRESENTER              |
|---------------|------------------------------|--|------------------------|
| 4094          | Theory & Data Analysis Tools | A State Space Modeling Approach to Real-Time Phase Estimation  | Anirudh Wodeyar        |
| 4095          | Theory & Data Analysis Tools | Automated customization of large-scale spiking network models to neuronal population activity  | Shenghao Wu            |
| 4096          | Theory & Data Analysis Tools | A novel plasticity rule that can form and maintain clusters in recurrent networks of spiking neurons   | Xiaoyu Yang            |
| 4097          | Theory & Data Analysis Tools | Do grid cells maintain their regular spatial activity patterns in one-dimensional environments?  | Man Yi Yim             |
| 4098          | Theory & Data Analysis Tools | Decision feedback and sensory representations are orthogonal   | Yuan Zhao              |
| 4099          | Theory & Data Analysis Tools | Automated generalized pose-tracking of multiple rhesus macaques  | Jan Zimmermann         |
| 5000          | Human Neuroscience           | Decoding of human identity by computer vision and neuronal vision  | Zahra Aghajan          |
| 5001          | Human Neuroscience           | High-definition transcranial direct current stimulation modulates performance and alpha/beta parieto-frontal connectivity serving fluid intelligence   | Yasra Arif             |
| 5002          | Human Neuroscience           | "Where Was I?" - How the brain keeps track of where we are in abstract spaces  | Habiba Azab            |
| 5003          | Human Neuroscience           | The role of physiological biomarkers in next-generation indications for therapeutic neuromodulation: Evidence from an on-going trial of deep brain stimulation to enhance chronic, post-stroke motor rehabilitation. | Kenneth Baker          |
| 5004          | Human Neuroscience           | Measuring and modeling the use of cognitive maps in memory experts   | Christopher Baldassano |
| 5005          | Human Neuroscience           | Seeing the Face of the Talker Improves Comprehension for Some Words more than Others   | Michael Beauchamp      |
| 5006          | Human Neuroscience           | Spin-echo generalized Slice Dithered Enhanced Resolution (gSLIDER) for high-resolution fMRI at 3T  | Alex Beckett           |
| 5007          | Human Neuroscience           | Accelerated submillimeter resolution 3D GRASE for functional MRI at 7 T  | Alex Beckett           |
| 5008          | Human Neuroscience           | Probing the auditory human brain with intracranial EEG: from perception to predictions   | Ludovic Bellier        |
| 5009          | Human Neuroscience           | Relating functional MRI to neuronal activity: accounting for effects of microarchitecture  | Anna Blazejewska       |
| 5010          | Human Neuroscience           | Ventral visual representations flexibly influence perceptual decision behavior across tasks  | Matthew Boring         |
| 5011          | Human Neuroscience           | Technologies for Mapping Neuronal Network Activity in Human Brain Organoids  | Ed Boyden              |
| 5012          | Human Neuroscience           | Multisite trial of an intracortical brain-computer interface to restore dexterous hand function  | Nathan Brantly         |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY           | POSTER TITLE   | PRESENTER          |
|---------------|--------------------|--|--------------------|
| 5013          | Human Neuroscience | Differentiation of speech-induced artifacts from physiological high gamma activity in intracranial recordings  | Alan Bush          |
| 5014          | Human Neuroscience | State-based modulation of evoked cortical responses elicited through stimulation of the cerebellar dentate nucleus in chronic post-stroke patients                                     | Brett Campbell     |
| 5015          | Human Neuroscience | Design of the NeuroEXPLORER, a next-generation ultra-high performance human brain PET imager   | Richard E. Carson  |
| 5016          | Human Neuroscience | Wearable Sensor-Driven Responsive Deep Brain Stimulation for Essential Tremor  | Stephanie Cernera  |
| 5017          | Human Neuroscience | Region- and cell-specific transcriptional signatures of aging across the rhesus macaque brain  | Kenneth Chiou      |
| 5018          | Human Neuroscience | A hallmark of enlarged perivascular space in Neuroimaging MRI data   | Jeiran Choupan     |
| 5019          | Human Neuroscience | Advantages of varying navigational abilities in humans and robots  | Elizabeth Chrastil |
| 5020          | Human Neuroscience | New Composite Thin Materials for Highly Miniaturized TMS Coils.  | Micol Colella      |
| 5021          | Human Neuroscience | 3D sub-cellular reconstruction of human Broca area by means of light-sheet fluorescence microscopy   | Irene Costantini   |
| 5022          | Human Neuroscience | A single cell correlate of theta-gamma phase amplitude coupling during working memory in the human hippocampus   | Jonathan Daume     |
| 5023          | Human Neuroscience | Noninvasive stimulation frequency doubly dissociates cerebellar involvement in episodic memory and linguistic prediction   | Shruti Dave        |
| 5024          | Human Neuroscience | Longitudinal verbal fluency changes following unilateral subthalamic nucleus deep brain stimulation in patients with Parkinson's disease   | Victor Del Bene    |
| 5025          | Human Neuroscience | Long-term Results of the Orion Visual Cortical Prosthesis Study  | Jessy Dorn         |
| 5026          | Human Neuroscience | Location-perception relationships in somatosensory cortex across multiple participants in a multisite brain-computer interface trial.  | John Downey        |
| 5027          | Human Neuroscience | Applying network controllability-based TMS targeting to working memory performance   | Romain Duprat      |
| 5028          | Human Neuroscience | Next Generation 7T MRI Scanner for Mesoscale Human Brain Imaging   | David Feinberg     |
| 5029          | Human Neuroscience | Electrical stimulation of the lateral lumbosacral spinal cord to provide sensory feedback, control reflexive muscle activity, and reduce phantom limb pain after lower-limb amputation | Lee Fisher         |
| 5030          | Human Neuroscience | Imaging Human Brain Function with Minimal Mobility Restrictions  | Michael Garwood    |
| 5031          | Human Neuroscience | Contributions of reward and uncertainty to human choice behavior in a novel sequential decision-making task  | Dalin Guo          |





## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY           | POSTER TITLE  | PRESENTER          |
|---------------|--------------------|---|--------------------|
| 5032          | Human Neuroscience | Neuromodulation Effects of Transcranial Focused Ultrasound in In Vivo Brain Models  | Bin He             |
| 5033          | Human Neuroscience | Basis profile curve identification to understand electrical stimulation effects in human brain networks   | Dora Hermes        |
| 5034          | Human Neuroscience | Effect of object presence and grasp intention on M1 activity during brain-computer interface controlled reaches   | Angelica Herrera   |
| 5035          | Human Neuroscience | Broadband Wireless Intracortical BCI Enables Independent Use at Home  | Leigh Hochberg     |
| 5036          | Human Neuroscience | Stereologic quantification of immunohistochemically identified neuronal populations on LSFM high-resolution volumetric datasets   | Patrick R. Hof     |
| 5037          | Human Neuroscience | Connectome 2.0: Developing the next generation human MRI scanner for bridging studies of the micro-, meso- and macro-connectome   | Susie Huang        |
| 5038          | Human Neuroscience | The impact of population structure on the derived measures of multimodal neuroimaging   | Tzu-Hsuan Huang    |
| 5039          | Human Neuroscience | Parallel memory systems for efficient recognition   | Anna Jafarpour     |
| 5040          | Human Neuroscience | Dissociable oscillatory theta signatures of memory formation in the developing brain  | Elizabeth Johnson  |
| 5041          | Human Neuroscience | Bayes' optimality predicts the interaction between vision and intracortical microstimulation in humans  | Vahagn Karapetyan  |
| 5042          | Human Neuroscience | Cross-Linguistic EEG Comparisons on the use of Geomagnetic Cues by the Human Brain as a Path for Understanding Consciousness  | Joseph Kirschvink  |
| 5043          | Human Neuroscience | Cortical Processing of Arithmetic and Simple Sentences, in an Auditory Attention Task   | Joshua Kulasingham |
| 5044          | Human Neuroscience | Data-driven brain-to-brain coupling models of eye contact: in-person vs. online   | Ray Lee            |
| 5045          | Human Neuroscience | An LSTM-inspired Deep Learning model predicting biophysical parameters in human brain   | Daren Ma           |
| 5046          | Human Neuroscience | Deep cerebellar stimulation promotes recovery of motor function after stroke and modulation of task-related cortical activity   | Andre Machado      |
| 5047          | Human Neuroscience | Theta-band EEG differentiates neural tracking of metrically regular versus irregular speech   | Cyrille Magne      |
| 5048          | Human Neuroscience | NEMAR.org: A human neuroelectromagnetic data, tools, and compute portal to OpenNeuro  | Scott Makeig       |
| 5049          | Human Neuroscience | Electrophysiological Biomarkers to Optimize DBS for Depression IV.  | Helen Mayberg      |
| 5050          | Human Neuroscience | Longitudinal study of the effects of subcallosal cingulate deep brain stimulation for treatment-resistant depression on the power spectrum of the resting electroencephalogram. | Tanya Nauvel       |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY           | POSTER TITLE  | PRESENTER             |
|---------------|--------------------|---|-----------------------|
| 5051          | Human Neuroscience | RT-Cloud: A Cloud-based Software Framework to Simplify and Standardize Real-Time fMRI   | Kenneth Norman        |
| 5052          | Human Neuroscience | Safety of Mapping Spinal Cord Motor Networks for Human Application  | Carly O'Sullivan      |
| 5053          | Human Neuroscience | brainlife.io Free open cloud platform for reproducible neuroimaging data processing   | Franco Pestilli       |
| 5054          | Human Neuroscience | Germanium-detector SPECT Development  | Todd Peterson         |
| 5055          | Human Neuroscience | Combined spatial and spectral features from cortical and subcortical oscillations for movement decoding in Parkinson's disease patients       | Victoria Peterson     |
| 5056          | Human Neuroscience | An Update on Safe and Tolerable Closed-Loop Deep Brain Stimulation using Neural and Kinematic Features of Freezing of Gait                    | Matthew Petrucci      |
| 5057          | Human Neuroscience | Modeling the biophysical underpinnings of the BOLD fMRI response in humans  | Jonathan R. Polimeni  |
| 5058          | Human Neuroscience | Long-term ecological assessment of intracranial electrophysiology synchronized to behavioral markers in Obsessive-Compulsive Disorder         | Nicole Provenza       |
| 5059          | Human Neuroscience | Neuromonitoring after Severe Traumatic Brain Injury with Dexamethasone-Enhanced Continuous-Online Microdialysis                               | Ava Puccio            |
| 5060          | Human Neuroscience | NIDM-Terms: Techniques and Controlled Vocabularies for Annotating Datasets to Maximize Findability and Reuse.                                 | Nazek Queder          |
| 5061          | Human Neuroscience | Evaluation of somatovisual integration in the deep layers of human superior colliculus  | Asma Qureshi          |
| 5062          | Human Neuroscience | Human substantia nigra neural activity during instructed speed-accuracy tradeoff  | Ashwin Ramayya        |
| 5063          | Human Neuroscience | Ex-vivo whole human brain high b-value diffusion MRI at 550 micron isotropic resolution using a 3T Connectom scanner                          | Gabriel Ramos Llorden |
| 5064          | Human Neuroscience | Numerical Integration between the Exact and Approximate Number Systems: Evidence for Task-Dependence and Its Link to Math Abilities in Adults | Xueying Ren           |
| 5065          | Human Neuroscience | A Time-Gated 32x32 InP/InGaAs-based SPAD Array for Time Domain Diffuse Correlation Spectroscopy at 1064 nm                                    | Marco Renna           |
| 5066          | Human Neuroscience | Development and Translation of an Intracranial Auditory Nerve Implant   | Loren Rieth           |
| 5067          | Human Neuroscience | A data science toolbox to study human brain diffusion MRI connectomes   | Ariel Rokem           |
| 5068          | Human Neuroscience | Deciphering the neuronal mechanisms of human episodic memory  | Ueli Rutishauser      |
| 5069          | Human Neuroscience | A modeling framework for determining changes in neural-level tuning from non-invasive human fMRI data   | Patrick Sadil         |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY           | POSTER TITLE  | PRESENTER            |
|---------------|--------------------|---|----------------------|
| 5070          | Human Neuroscience | Beta Phase-Dependent Stimulation Modulates Beta-Gamma Phase-Amplitude Coupling in Human Motor Cortex                            | Yousef Salimpour     |
| 5071          | Human Neuroscience | Theta Phase-Dependent Stimulation Modulates Theta-Gamma Cross- Frequency Coupling in Human Hippocampus                          | Yousef Salimpour     |
| 5072          | Human Neuroscience | Modulation of brain metabolites using concurrent high-dose tDCS-Magnetic Resonance Spectroscopy                                 | Anant Shinde         |
| 5073          | Human Neuroscience | Dose and montage effects in finger sequence learning and concurrent tDCS-MRI experiments  | Anant Shinde         |
| 5074          | Human Neuroscience | What happens when computer scientists try to do neuroimaging?   | Jeffrey Mark Siskind |
| 5075          | Human Neuroscience | Learning context-dependent temporal associations across time-scales   | Cybelle M. Smith     |
| 5076          | Human Neuroscience | Early role for a Na <sup>+</sup> /K <sup>+</sup> -ATPase (ATP1A3) in brain development  | Richard Smith        |
| 5077          | Human Neuroscience | Restoring Sight to the Blind: Effects of Plasticity and Multimodality   | Noelle Stiles        |
| 5078          | Human Neuroscience | Mobile Brain Imaging during Real World Table Tennis   | Amanda Studnicki     |
| 5079          | Human Neuroscience | What the brain does as we speak   | Nitin Tandon         |
| 5080          | Human Neuroscience | An atlas of glial chromatin accessibility in the human cortex and hippocampus   | Casey Thornton       |
| 5081          | Human Neuroscience | Initial Clinical Outcome following Bilateral, STN + GP Deep Brain Stimulation Trial in Parkinson's Disease using Medtronic RC+S | Dennis A Turner      |
| 5082          | Human Neuroscience | Neural mechanisms of intentional action   | John Veillette       |
| 5083          | Human Neuroscience | Deciphering the Content of Internal Models for Speech Motor Control   | John Veillette       |
| 5084          | Human Neuroscience | A Paradigm Change in Functional Brain Mapping: Suppressing the Thermal Noise in fMRI  | Luca Vizioli         |
| 5085          | Human Neuroscience | Multislab multiband 3D EPI for simultaneous high spatial and temporal resolution at 7T  | Luca Vizioli         |
| 5086          | Human Neuroscience | A computational neural model for mapping degenerate neural architectures  | Yiyu Wang            |
| 5087          | Human Neuroscience | Network level analysis for connectome-wide association studies: applications in neurodevelopment                                | Muriah Wheelock      |
| 5088          | Human Neuroscience | Tuning of Alpha Oscillations in Human Cortex  | Jonathan Winawer     |



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| POSTER NUMBER | CATEGORY              | POSTER TITLE   | PRESENTER          |
|---------------|-----------------------|--|--------------------|
| 5089          | Human Neuroscience    | Evidence accumulation by cells in the human medial temporal lobe during memory-based decisions.  | Mar Yebra          |
| 5090          | Human Neuroscience    | Neurons detect cognitive boundaries to structure episodic memories in humans   | Jie Zheng (self)   |
| 6000          | Integrated Approaches | Development and Validation of Photo-Caged Oxytocin Analogs   | Ismail Ahmed       |
| 6001          | Integrated Approaches | Neuronavigation with Skull Segmentation and Acoustic Modeling for Guiding Transcranial Acoustoelectric Brain Imaging   | Margaret Allard    |
| 6002          | Integrated Approaches | Limb and joint kinematic control in the quail coping with step perturbations   | Emanuel Andrada    |
| 6003          | Integrated Approaches | Modelling dog locomotion: Influences of body structure, neuromechanical control, and degenerative diseases.  | Emanuel Andrada    |
| 6004          | Integrated Approaches | Magnetic approaches to neuromodulation   | Polina Anikeeva    |
| 6005          | Integrated Approaches | NeuroNex: The fabric of the primate neocortex and the origin of working memory   | Amy Arnsten        |
| 6006          | Integrated Approaches | Rules of neural dynamics are harnessed to generalize a motor command   | Vivek Athalye      |
| 6007          | Integrated Approaches | Causal role for sleep-dependent reactivation of learning-activated sensory ensembles for fear memory consolidation   | Sara Aton          |
| 6008          | Integrated Approaches | Sleep loss disrupts hippocampal memory consolidation via an acetylcholine- and somatostatin interneuron-mediated inhibitory gate                             | Sara Aton          |
| 6009          | Integrated Approaches | Impact of hedonic value of stimuli on sampling dynamics during a preference test   | Benjamin Ballintyn |
| 6010          | Integrated Approaches | Encoding retrospective and prospective information in neural trajectories  | Dean Buonomano     |
| 6011          | Integrated Approaches | Firing rate adaptation in response to depolarizing current ramps in CA1 hippocampal pyramidal neurons is converted to acceleration by cholinergic modulation | Carmen Canavier    |
| 6012          | Integrated Approaches | Comprehensive readout of activity and cell type markers reveals a circuit hub in primary somatosensory cortex  | Jerry Chen         |
| 6013          | Integrated Approaches | Breaking Spatiotemporal Barriers of MR Imaging Technologies to Study Human Brain Function and Neuroenergetics  | Wei Chen           |
| 6014          | Integrated Approaches | Integrated fMRI Methods to Study Neurophysiology and Circuit Dynamics at Laminar and Columnar Level  | Wei Chen           |
| 6015          | Integrated Approaches | Behavioral microstructure of a memory-guided food-caching behavior and its relationship to hippocampal coding and replay                                     | Selmaan Chettih    |
| 6016          | Integrated Approaches | From Odor to Action: Discovering Principles of Olfactory-Guided Natural Behavior   | John Crimaldi      |



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| POSTER NUMBER | CATEGORY              | POSTER TITLE  | PRESENTER                  |
|---------------|-----------------------|---|----------------------------|
| 6017          | Integrated Approaches | International Brain Initiative: Data Standards and Sharing Training Activities  | Sharon Crook               |
| 6018          | Integrated Approaches | fMRI-informed optimization and verification of coil placement in transcranial magnetic brain stimulation  | Dr. Moritz Dannhauer       |
| 6019          | Integrated Approaches | A Wireless Development Platform for Neural Activity Monitoring and Wireless Energy Harvesting with Magnetolectric Antennas  | Diptashree Das             |
| 6020          | Integrated Approaches | Electrophysiology and Oxygen Assessments using an MR-Compatible Microelectrode array  | Livia de Mesquita Teixeira |
| 6021          | Integrated Approaches | Neuronal sequences during theta rely on behavior-dependent spatial maps   | Kamran Diba                |
| 6022          | Integrated Approaches | Successful transgenesis of the American Locust  | Dianne Duncan              |
| 6023          | Integrated Approaches | National Center for Microscopy and Imaging Research: A BRAIN Technology Integration and Dissemination Resource  | Mark Ellisman              |
| 6024          | Integrated Approaches | Chemogenetic silencing of amygdala activity alters resting state functional connectivity in macaques  | Catherine Elorette         |
| 6025          | Integrated Approaches | Multivariate molecular analysis of 3D neuronal cultures subject to long-term potentiation protocols indicates a lack of robust responses                                | Josh Erndt-Marino          |
| 6026          | Integrated Approaches | Disease associated perturbations in the synaptic molecular network revealed with multiplexed imaging  | Reuven Falkovich           |
| 6027          | Integrated Approaches | Delayed auditory feedback interferes with song initiation in zebra finches, implicating preparatory behavior and recurrent connections                                  | Graham Fetterman           |
| 6028          | Integrated Approaches | Rhythm and sequence, not time: bird-specific preferred burst timing of basal ganglia projecting song system neurons undermines the continuous representation hypothesis | Graham Fetterman           |
| 6029          | Integrated Approaches | Optical imaging of layer-resolved oxygen consumption in mouse cerebral cortex   | Natalie Fomin-Thunemann    |
| 6030          | Integrated Approaches | Engineering Ionotropic Chemogenetic Receptors in Yeast  | Elizabeth Gardner          |
| 6031          | Integrated Approaches | Investigating the role of low level reinforcement reflex loops in insect locomotion   | Clarissa Goldsmith         |
| 6032          | Integrated Approaches | Stratum Lacunosum-moleculare Interneurons of the Hippocampus Coordinate Memory Encoding and Retrieval   | Jun Guo                    |
| 6033          | Integrated Approaches | Behaviorally relevant spatiotemporal sensory coding   | Pedro Herrero Vidal        |
| 6034          | Integrated Approaches | SCAPE microscopy for high-speed 3D imaging of cellular function in behaving animals   | Elizabeth M Hillman        |
| 6035          | Integrated Approaches | Optimizing Limb Stiffness for Reaching with Functional Electrical Stimulation   | Tyler Johnson              |



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| POSTER NUMBER | CATEGORY              | POSTER TITLE  | PRESENTER         |
|---------------|-----------------------|---|-------------------|
| 6036          | Integrated Approaches | Visualized turbulent odor signals reveal stochastic navigational decisions driven by odor encounter timing  | Nirag Kadakia     |
| 6037          | Integrated Approaches | Cortical layer-specific differences in feature selectivity of neurons, vessels and voxels   | Prakash Kara      |
| 6038          | Integrated Approaches | Chronic Cranial Windows for Long Term Multimodal Neurovascular Imaging in Mice  | Kıvılcım Kılıç    |
| 6039          | Integrated Approaches | A midbrain inhibitory nucleus controls distracter suppression for spatial attention   | Ninad Kothari     |
| 6040          | Integrated Approaches | Distributed Brain Co-Processor for Neurophysiologic Tracking and Adaptive Stimulation: Application to Drug Resistant Epilepsy                                       | Vaclav Kremen     |
| 6041          | Integrated Approaches | Bridging basic sciences and non-invasive neurotechnologies to investigate, diagnose, and treat anxiety-driven neurodegenerative disorders along the gut-brain axis. | Aarti Kuver, PhD  |
| 6042          | Integrated Approaches | Behavioral correlates for a cartesian coordinate system for the human forebrain   | John LaMuth       |
| 6043          | Integrated Approaches | A Gene Expression System to Produce Uniform Protein Levels in Transiently Transfected Cells   | Michelle Land     |
| 6044          | Integrated Approaches | A viral vector engineered for improved spatially-specific noninvasive gene delivery to the brain  | Hongyi Richard Li |
| 6045          | Integrated Approaches | A modular demand-driven complexity neuromechanical model of Aplysia feeding   | Ashlee Liao       |
| 6046          | Integrated Approaches | An algorithm for high efficiency planning   | Malcolm Maclver   |
| 6047          | Integrated Approaches | Multichannel Electrophysiological Recording with Unsupervised Spike Detection and Spike Sorting in a Duty-cycled Wireless Optogenetic Headstage                     | Ifana Mahbub      |
| 6048          | Integrated Approaches | Building a biomechanical model of the rat forelimb.   | Joshua Mak        |
| 6049          | Integrated Approaches | From ion channels to graph theory in sensorimotor learning  | Daniel Margoliash |
| 6050          | Integrated Approaches | Distributed neural organization of sensorimotor dynamics  | Daniel Margoliash |
| 6051          | Integrated Approaches | Diversity of discounting horizons explains ramping diversity in dopaminergic neurons  | Paul Masset       |
| 6052          | Integrated Approaches | Brain states and flexible behavior  | David McCormick   |
| 6053          | Integrated Approaches | Relating intrinsic neuronal properties to singing behavior in zebra finches   | Nelson Medina     |
| 6054          | Integrated Approaches | Kilohertz full-frame two-photon imaging of cortical hemodynamics in vivo  | Guanghan Meng     |



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| POSTER NUMBER | CATEGORY              | POSTER TITLE  | PRESENTER           |
|---------------|-----------------------|---|---------------------|
| 6055          | Integrated Approaches | Ramping and State Uncertainty in the Dopamine Signal  | John Mikhael        |
| 6056          | Integrated Approaches | A TOF, DOI, MRI compatible PET Detector to support 1 mm resolution neuroPET imaging   | Robert Miyaoka      |
| 6057          | Integrated Approaches | Programmers Prefer Predictable Expressions in Code  | Emily Morgan        |
| 6058          | Integrated Approaches | Post-error recruitment of frontal sensory cortical projections promotes attention in mice   | Hirofumi Morishita  |
| 6059          | Integrated Approaches | Overlapping molecular and circuit programs cooperate to drive learning  | Jessica Nelson      |
| 6060          | Integrated Approaches | PV Neurons Enhance Cortical Coding in the Cocktail Party Problem  | Jian Carlo Nocon    |
| 6061          | Integrated Approaches | Establishing Common Coordinate Framework for Quantitative Cell Census in Developing Mouse Brains  | Jordan Norwood      |
| 6062          | Integrated Approaches | Integrated multichannel system for transcranial magnetic stimulation and parallel magnetic resonance imaging  | Aapo Nummenmaa      |
| 6063          | Integrated Approaches | Optical platform for simultaneous imaging of neuro-glio-vascular activities   | Yingtian Pan        |
| 6064          | Integrated Approaches | Computational model of neural coding in bat's auditory midbrain   | Sangwook Park       |
| 6065          | Integrated Approaches | Probing neuropeptide volume transmission in vivo by a novel all-optical approach  | Zhenpeng Qin        |
| 6066          | Integrated Approaches | NeuroNex: Communication, Coordination, and Control in Neuromechanical Systems   | Roger Quinn         |
| 6067          | Integrated Approaches | Single Cell Communication during the Formation of Neural Networks   | Amina Qutub         |
| 6068          | Integrated Approaches | Odor tracking by aquatic organisms: Utilizing bursting olfactory receptor neurons to sample the intermittent structure of chemical plumes                 | Matthew Reidenbach  |
| 6069          | Integrated Approaches | Odor Plume Neurophotonics (OPeN)  | Diego Restrepo      |
| 6070          | Integrated Approaches | From ion channel dynamics to EEG and MEG: multiscale thalamocortical network model with hierarchical connectivity of sleep spindles and slow oscillations | Burke Rosen         |
| 6071          | Integrated Approaches | Dynamic Scaling of a Dog-Sized Robot  | Joseph Sammartino   |
| 6072          | Integrated Approaches | Introducing a multimodal NIR microscope with enhanced resolution capability and a suite of in-situ pulse characterization tools                           | Daniel Scarbrough   |
| 6073          | Integrated Approaches | Designing Sensory Feedback Pathways for Stability in Quadrupedal Hind Limb Stepping   | Cody Scharzenberger |



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| POSTER NUMBER | CATEGORY              | POSTER TITLE  | PRESENTER             |
|---------------|-----------------------|---|-----------------------|
| 6074          | Integrated Approaches | DNA-based Nanostructures as Platforms for pH-responsive MRI Analysis  | Hyewon Seo            |
| 6075          | Integrated Approaches | Novel transparent, ultra-soft neuroelectrode arrays based on nanomeshing conventional electrode materials   | Kyung Jin Seo         |
| 6076          | Integrated Approaches | Single-trial analyses uncover distinct roles of the lateral intraparietal area and the superior colliculus in decision formation and termination  | Gabriel Stine         |
| 6077          | Integrated Approaches | Towards a complete description of the circuitry underlying sharp wave-mediated memory replay  | Ivan Soltesz          |
| 6078          | Integrated Approaches | Effect of implant stiffness on oxygen tension around chronic neural interfaces using a novel MR-based imaging technique                           | Arati Sridharan       |
| 6079          | Integrated Approaches | Comprehensive Analysis of a Decision Circuit  | Paul W. Sternberg     |
| 6080          | Integrated Approaches | Circuit-wide functional organization of a natural multistep behavior – <i>C. elegans</i> mating   | Vladislav Susoy       |
| 6081          | Integrated Approaches | Scale-Dependent Modeling Framework of Motor Control   | Gregory Sutton        |
| 6082          | Integrated Approaches | Codesign of Micro-coils and CMOS Technology for Magnetic Neurostimulation Neural Probes   | Edward Szoka          |
| 6083          | Integrated Approaches | Visual function recovery after ischemia through NeuroD1-mediated gene therapy   | Yu Tang               |
| 6084          | Integrated Approaches | Robust rhythm generation: shape and timing analysis of a closed-loop motor control system   | Peter J. Thomas       |
| 6085          | Integrated Approaches | Neural mechanisms of compositionality in problem-solving  | Lucas Tian            |
| 6086          | Integrated Approaches | Cortically informed Artificial Intelligence   | Andreas Tolias        |
| 6087          | Integrated Approaches | Generation of recombinant monoclonal antibodies and ScFvs against brain targets using sequences derived from high-throughput hybridoma sequencing | James Trimmer         |
| 6088          | Integrated Approaches | Effect of active suction on fidelity of photo-ionization detector measurements of odors   | Aaron True            |
| 6089          | Integrated Approaches | Development of a scalable strategy for reconstructing cell-type determined connectome of the mammalian brain.                                     | Logan Walker          |
| 6090          | Integrated Approaches | Simultaneous fMRI and fast-scan cyclic voltammetry bridges evoked oxygenation and neurotransmitter release dynamics across spatiotemporal scales  | Lindsay Walton        |
| 6091          | Integrated Approaches | Risk-assessment: Balancing separate dopamine-striatum systems for behavioral choice   | Mitsuko Watabe-Uchida |
| 6092          | Integrated Approaches | Hybrid continuous/Boolean neuromechanical modeling for predicting multifunctionality in <i>Aplysia californica</i>                                | Victoria Webster-Wood |





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| POSTER NUMBER | CATEGORY              | POSTER TITLE   | PRESENTER             |
|---------------|-----------------------|--|-----------------------|
| 6093          | Integrated Approaches | Optical measurement of causal functional connectivity in posterior parietal cortex   | Daniel Wilson         |
| 6094          | Integrated Approaches | Cortical representations of spontaneous movements  | Weihao Xu             |
| 6095          | Integrated Approaches | An RF Energy Harvesting Circuit for Animal Tissue Stimulation with Magnetolectric Antennas   | Ziyue Xu              |
| 6096          | Integrated Approaches | Polymer Ultrasonic Bump (PUB) Bonding Chips to Polymer Cables for Large Scale Neural Recording   | James Yoo             |
| 6097          | Integrated Approaches | Analyzing the Scale-dependent Force Contributions of Rat Hindlimb Muscles During the Swing Phase of Locomotion   | Fletcher Young        |
| 7000          | Neuroethics           | A formative qualitative research approach to understanding attributes that influence physician and caregiver decisions about neurotechnology for pediatric drug resistant epilepsy | Glory Apantaku        |
| 7001          | Neuroethics           | Barriers and Other Ethical Concerns about Psychiatric Electroceutical Interventions for Treatment-Resistant Depression: A National Survey Study                                    | Laura Cabrera         |
| 7002          | Neuroethics           | Tracing the Discourse Around Post Trial Obligations  | Ishan Dasgupta        |
| 7003          | Neuroethics           | Perspectives of subjects and families participating in the central thalamic brain stimulation trial in patients with severe to moderate traumatic brain injury                     | Joseph Fins           |
| 7004          | Neuroethics           | Physician perspectives on closed-loop neuromodulation in epilepsy care   | Kristina Celeste Fong |
| 7005          | Neuroethics           | Assessment of Overall Surgical Frequency Disparities, Risk Factors, Morbidity, and Mortality to Inform Deep Brain Stimulation for New Indications including Schizophrenia          | Judith Gault          |
| 7006          | Neuroethics           | Pediatric Deep Brain Stimulation: Clinicians' Perspectives on the Most Pressing Ethical Challenges   | Kristin Kostick       |
| 7007          | Neuroethics           | Infographic Resources on Neurotechnology and Paediatric Drug Resistant Epilepsy.   | Ashley Lawson         |
| 7008          | Neuroethics           | Participant Perspectives on Post-Trial Access to Experimental Neural Devices   | Gabriel Lazaro-Munoz  |
| 7009          | Neuroethics           | The experience of human subjects in brain organoid research  | Kate MacDuffie        |
| 7010          | Neuroethics           | Is MRI-Guided Focused Ultrasound (MRgFUS) Non-Invasive? A Web Scrape Analysis  | Amanda Merner         |
| 7011          | Neuroethics           | Personality Changes following Deep Brain Stimulation (DBS) in Patients with Parkinson's Disease (PD)   | Amanda Merner         |
| 7012          | Neuroethics           | Mitigating bias and creating more inclusive neurotech  | Linzie Taylor         |
| 7013          | Neuroethics           | BCI's Impact on User Agency: Mapping the Terrain   | Andreas Schönau       |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                        | POSTER TITLE  | PRESENTER                   |
|---------------|---------------------------------|---|-----------------------------|
| 7014          | Neuroethics                     | The Need for ELSI Guidance on Mobile Neuroimaging Technologies: Stakeholder Perspectives of Scientists Developing the Technologies  | Francis Shen                |
| 7015          | Neuroethics                     | Hope and Unrealistic Optimism in Pediatric Deep Brain Stimulation   | Lilly Snellman              |
| 7016          | Neuroethics                     | Is There an Ideal Patient? Clinician Perceptions of Optimal Candidate for Pediatric Deep Brain Stimulation  | Laura Torgerson             |
| 7017          | Neuroethics                     | The impact of anxiety and depression on dimensions of agency.   | Ashley Walton               |
| 7018          | Neuroethics                     | An Ethical Approach to Detecting Covert Consciousness   | Michael J. Young, MD, MPhil |
| 7019          | Neuroethics                     | Participant Perspectives on Personality, Identity, Mood, and Behavioral Changes in Experimental Deep Brain Stimulation  | Peter Zuk                   |
| 8000          | Diversity, Equity and Inclusion | Using quantitative synapse data to engage high school students in discovery science   | Alison Barth                |
| 8001          | Diversity, Equity and Inclusion | Effective recruiting of trailblazing early-career STEM leaders through holistic selection and scientific mentorship   | Martha Cervantes            |
| 8002          | Diversity, Equity and Inclusion | Outreach in a pandemic: Empowering students to TAP-in to their inner scientist  | Cagney Coomer               |
| 8003          | Diversity, Equity and Inclusion | Advancing high school research exposure through Brain Research Apprenticeships In New York At Columbia (BRAINYAC)   | Paula Croxson               |
| 8004          | Diversity, Equity and Inclusion | A three- pronged Initiative for Enhancing Diversity in Columbia's Neuroscience Training Programs  | Aniruddha Das               |
| 8005          | Diversity, Equity and Inclusion | Diversity Modeling  | Richard Ellenbogen          |
| 8006          | Diversity, Equity and Inclusion | Ongoing Anti-Racism efforts at the University of Pittsburgh's Rehab Neural Engineering Labs   | Angelica Herrera            |
| 8007          | Diversity, Equity and Inclusion | BRAIN initiative projects transcend traditional categories promoting inclusion  | Ute Hochgeschwender         |
| 8008          | Diversity, Equity and Inclusion | Broadening the Representation of Academic Investigators in NeuroScience (BRAINS): a cohort-based professional development community for neuroscientists from underrepresented and marginalized groups | Claire Horner-Devine        |
| 8009          | Diversity, Equity and Inclusion | Keeping talented scientists in science: Supporting crucial career transitions for individuals in underrepresented groups by the Simons Collaboration on the Global Brain                              | Laura Long                  |
| 8010          | Diversity, Equity and Inclusion | A multidimensional and virtual summer research training program in the Neurosciences for undergraduate students from underrepresented backgrounds at a Hispanic Serving Institution.                  | Carmen Maldonado-Vlaar      |
| 8011          | Diversity, Equity and Inclusion | Office of Programs to Enhance Neuroscience Workforce Diversity (OPEN)   | Marguerite Matthews         |
| 8012          | Diversity, Equity and Inclusion | Indians Into Medicine: Native Educator University Research Opportunity in Neuroscience  | Makayla Melvin              |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                        | POSTER TITLE   | PRESENTER               |
|---------------|---------------------------------|--|-------------------------|
| 8013          | Diversity, Equity and Inclusion | Research Experience in Autism for College and High school students (REACH): A pipeline program for underrepresented students in medicine and neuroscience                    | Daniel Mishan           |
| 8014          | Diversity, Equity and Inclusion | Selecting for Inclusion  | Christine Mac Donald    |
| 8015          | Diversity, Equity and Inclusion | Community Partnerships for Program Diversity   | James Pridgeon          |
| 8016          | Diversity, Equity and Inclusion | Plan for Enhancing Diverse Perspectives: Scientific excellence, inclusivity, and The BRAIN Initiative®   | Ryan Richardson         |
| 8017          | Diversity, Equity and Inclusion | Enhancing Diverse Perspectives in Neuroscience through Institutional Partnerships: The NSF HSI National STEM Resource Hub  | Elba Serrano            |
| 8018          | Diversity, Equity and Inclusion | Initial steps towards a democratized, enriched training environment using DeepLabCut   | Stephanie Shields       |
| 8019          | Diversity, Equity and Inclusion | Enhancing Diversity and Inclusion in Neuroscience through Cross-Institutional Partnerships among the Atlanta University Center Consortium Schools and Harvard Medical School | Taralyn Tan             |
| 8020          | Diversity, Equity and Inclusion | What Women and Minorities are Afraid to Speak Up About   | Dawn Taylor             |
| 8021          | Diversity, Equity and Inclusion | PURE and NURE Summer Research Programs to Increase Training Opportunities in Pain and Neurodegeneration  | Kevin Tidgewell         |
| 8022          | Diversity, Equity and Inclusion | Cross-Cultural Neuroscience Programs for Underrepresented Youth: Building a Global Outreach Initiative   | Tyler J Wishard         |
| 9000          | Trainee Highlight Award         | Design, fabrication and in vivo demonstration of high-density Stainless Steel neural probes for recording from NHP brain   | Zabir Ahmed             |
| 9001          | Trainee Highlight Award         | The effect of microglial genes on network diffusion of pathology in mouse models of tauopathy  | Chaitali Anand          |
| 9002          | Trainee Highlight Award         | The mouse cortico-tectal projectome  | Nora Benavidez          |
| 9003          | Trainee Highlight Award         | Real-time analysis of neural activity and functional connectivity  | Anne Draelos            |
| 9004          | Trainee Highlight Award         | Statistical and Machine Learning Framework to Facilitate Analysis in the Data Archive for the BRAIN Initiative (DABI)  | Rachael Garner          |
| 9005          | Trainee Highlight Award         | Attitudes Toward Psychiatric Electroceutical Interventions for Treatment-Resistant Depression: A National Survey Study   | Maryssa Gilbert         |
| 9006          | Trainee Highlight Award         | Movement-related cerebello-cerebral electrophysiological interactions in chronic, post-stroke patients   | Raghavan Gopalakrishnan |
| 9007          | Trainee Highlight Award         | Decoding Isometric Handgrip Force from Graded Event-Related Desynchronization of the Sensorimotor Rhythm for Brain-Computer Interface Applications                           | Chase Haddix            |
| 9008          | Trainee Highlight Award         | Investigating state-dependent regulation of olfactory processing by the basal forebrain  | Elizabeth Hanson        |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                | POSTER TITLE   | PRESENTER            |
|---------------|-------------------------|--|----------------------|
| 9009          | Trainee Highlight Award | High-precision noninvasive gene delivery to the brain  | Manwal Harb          |
| 9010          | Trainee Highlight Award | Exploring equitable and culturally meaningful access to advanced neurotechnologies for paediatric epilepsy                                   | Louise Harding       |
| 9011          | Trainee Highlight Award | Effects of optimal circular versus directional unilateral STN DBS on motor performance in Parkinson's Disease                                | Daniel Kuhman        |
| 9012          | Trainee Highlight Award | Functional microarchitecture for auditory processing in the Inferior Colliculus of the awake bat revealed through two-photon calcium imaging | Jenifer Lawlor       |
| 9013          | Trainee Highlight Award | The impact of realistic axonal shape on axon size mapping using double-pulsed-field-gradient (dPFG) diffusion MRI                            | Hong Hsi Lee         |
| 9014          | Trainee Highlight Award | Neural activity sensor engineering accelerated by high-throughput microscopy-based screening platform  | Zhuohe Liu           |
| 9015          | Trainee Highlight Award | Sequence and Structure Guided Genetically Encoded Voltage Indicator Engineering  | Xiaoyu Lu            |
| 9016          | Trainee Highlight Award | Pressing Ethical Issues in Considering Pediatric Deep Brain Stimulation for Obsessive-Compulsive Disorder                                    | Katrina Munoz        |
| 9017          | Trainee Highlight Award | Fiber activation modeling for targeted central thalamic deep brain stimulation of traumatic brain injury patients                            | Kyle O'Sullivan      |
| 9018          | Trainee Highlight Award | A 3D-Printed Helmet for Neuroimaging with Optically Pumped Magnetometers   | Andrew Paek          |
| 9019          | Trainee Highlight Award | Occam's razor for intuitive model selection  | Eugenio Piasini      |
| 9020          | Trainee Highlight Award | P-sort: an open-source software for cerebellar neurophysiology   | Ehsan Sedaghat-Nejad |
| 9021          | Trainee Highlight Award | Optical tracking informed transducer placement for focused ultrasound simulations  | Michelle Sigona      |
| 9022          | Trainee Highlight Award | Coupling between slow-waves and sharp-wave ripples engages distributed neural activity during sleep in humans                                | Ivan Skelin          |
| 9023          | Trainee Highlight Award | EEG assessment of central sensory network coding during non-invasive spinal stimulation  | Alexander Steele     |
| 9024          | Trainee Highlight Award | Synthesizing Spatial Scales: Computational Tools for Multi-Modal Multi-Scale Neuroimage Registration and Analysis                            | Kaitlin Stouffer     |
| 9025          | Trainee Highlight Award | Optically activated, customizable, excitable cell  | Merrilee Thomas      |
| 9026          | Trainee Highlight Award | Psychiatrists' perspectives on clinical guidelines recommendations for use of electroceutical interventions in major depressive disorder     | Eleni Varelas        |
| 9027          | Trainee Highlight Award | A biophysical spectral graph model-based investigation of brain oscillations   | Parul Verma          |



## BRAIN Initiative Investigator's Meeting

| POSTER NUMBER | CATEGORY                | POSTER TITLE   | PRESENTER      |
|---------------|-------------------------|--|----------------|
| 9028          | Trainee Highlight Award | Using Studies of the Octopus and Human Reach to Aid the Advancement of Smart Prosthetics | Garrett Weidig |
| 9029          | Trainee Highlight Award | Noninvasive and Cell-type Specific Deep Brain Neuromodulation with Ultrasound            | Yaoheng Yang   |
|               |                         |  |                |