"Braenix"

Lea Amina Kalayci

Mouse brain coronal section depicting the complex brain vasculature array (magenta) fueling a flaming neural network with its white matter commissures (hot orange) resembling the rising flight of the mythological Phoenix bird. Samples were obtained by applying the CUBIC clearing method to brain sections derived from Thy1.2-GFP mice (GFP-M) and stained against CD31 to visualize the brain vasculature. Image was performed with a ZEISS Lightsheet 7 microscope (10x/0.5 detection objective, 5x/0.1 foc illumination objectives. Created by Lea Amina Kalayci and Sebastian Enrique Dupraz



Love is in the Brain-Vessel Kiss

Katarina Vucenovic

Blood vessels in CA3 hippocampus stained with Collagen IV and DAPI.



the pond

Caleb Berdahl

A surface of neural progenitor cells sits tranquil, beautiful, a sea of possibility. Nestin glows green, shining against the blackness below. A hunter approaches, cutting through the veil of color. What other creatures, thoughts, and emotions lurk below? Darkness obscures them. This work was a joint project. Tamara Krutenko cultured and then captured the image of NPCs. Caleb Berdahl modified the image.



The Tetris of Fragmented Memories

Emine Ciftci

My intention in creating an artwork about Alzheimer's disease is to raise awareness and create a dialogue about the impact that this devastating illness has on individuals and their families. My own grandfather has been diagnosed with Alzheimer's, and seeing the toll it takes on him and those around him and my own research topic as a doctoral researcher has motivated me to explore this topic through my art. Through my artwork, I hope to capture the emotional and psychological aspects of Alzheimer's. I planned to use a variety of mediums and techniques to convey the confusion, frustration, and sense of loss that comes with living with Alzheimer's, as well the love and support that can help those affected to navigate this difficult journey. By creating this artwork, I hope to spark discussion about the importance of Alzheimer's research, caregiving and support. I firmly believe that art has a unique power to foster empathy and understanding, potentially inspiring further action and investment in tackling this disease. To my art piece: Even when the cause of Alzheimer's Disease is not completely understood, the symptoms are almost the same, which are involved in its progression. The symptoms of Alzheimer's Disease especially the memory loss remind me kind of Tetris, the classic puzzle game, where players must manipulate falling 'tetrominoes', to create complete lines across the game board with no gaps. Here the game is over when all of the tetrominoes have been placed on the board and no more complete rows can be made. To achieve this visualization, I incorporated an MRI image of my grandfather's brain as a part of the "playfield." The falling tetrominoe blocks now represent neuron content, falling out of the brain and fitting into the gaps, symbolizing the process of memory retrieval. Microscope images, which are part of my research, serve as the tetrominoe blocks and illustrate various aspects of Alzheimer's disease pathology, such as the hippocampus and medial prefrontal cortex. The various elements of my collage are deliberately placed to represent the different stages of Alzheimer's disease. For example, "Level 5" symbolizes the progressive severity of the disease and highlights the increasing loss of cognitive abilities and memories. In addition, I incorporated the term "support" into the collage to indicate the importance of support for Alzheimer's patients. Family, friends, and medical professionals play a critical role in managing this disease. Another important element of my collage is the mention of "Reminyl," a drug that contains the active ingredient "galantamine." This drug is used to alleviate the symptoms of dementia. The inclusion of Reminyl illustrates the medical progress and hope associated with the research and treatment of Alzheimer's disease. In contrast to the original Tetris, where completed rows are deleted, I have overlapped a collage of family photos and images from my grandpa's trips to symbolize the gaps in his memories. These gaps represent the deterioration in his quality of life due to the lesions causing neuronal and synaptic loss, ultimately leading to amnesia. The linking of Alzheimer's and Tetris in my collage is intended to create a contrast between the game and the serious disease. Tetris symbolizes the challenges and difficulties that people with Alzheimer's face. Like in the game, they have to continuously organize and sort their thoughts and memories in order to achieve the longest possible positive outcome. Together, the collage is intended to illustrate the duality between game and disease and to encourage us to reflect on the impact of this disease on the lives of those affected. The combination of Alzheimer's and Tetris calls for reflection and is intended to remind viewers that it is important not to underestimate the disease and its symptoms, and to support and empathize with those who live with it.



Whispers of Wisdom: Lab Mice's Discourse

Rozhin Bayati

In the fascinating field of behavioral studies, it's as if the lab animals themselves become our teachers. Through their actions and behaviors, they explain their brain functionality, as if delivering captivating lectures. We are like fortunate students, gaining a deeper understanding of their inner workings and the intriguing world of neuroscience.



Psychedelic Organoid

Marina Mayer

Cerebral organoid in early development with many proliferative neural stem cells expressing SOX2, PAX6 and nuclei stained with DAPI, edited with a kaleidoscope filter.



Stranger in the mirror

Sebastian Dupraz

Neurons mirroring each other from the opposite hemispheres in the brain, they seemingly look the same but they differ in their very center. **Short description**: Mirroring pseudo-colored mouse normal (magenta) and modified (yellow) cortical neurons electroporated in utero embryonically and analysed in the postnatal brain. Taken with Plan-Apochromat 20X/0.95NA objective using Cell Discoverer 7 (Zeiss). **Extended description**: A pseudo-colored micrograph of a mouse postnatal brain previously subjected to bilateral in utero electroporation at an embryonic stage. Image was taken with a Plan-Apochromat 20X/0.95 N.A objective in an automated boxed LSM900 confocal microscope (Cell Discoverer 7; Zeiss) and pseudocolored in ImageJ. The right hemisphere shows control neurons (magenta), whilst in the left hemisphere (yellow), there are neurons expressing a peptide that inhibits microtubule nucleation from the centrosome. Bilateral in utero electroporation allows to follow the development of control neurons alongside modified ones and achieve an unambiguous evaluation of their behavior. With the help of images like this, the scientists identified that microtubule nucleation from the centrosome coordinates the radial migration of cortical neurons but it is not involved in the formation or growth of their axons.



When gut meets brain

Yujie Wang

Watercolor drawing. Inspired by The Creation of Adam.

