

“Pentaplexity” by Melissa Borrell

About the Artwork



The proposed sculpture, called PENTAPLEXITY, will convey the vast reach of Houston’s airports and reference the city’s historic role as the Space City. Greeting visitors as they approach the IAH Administration Building, the suspended cloud of color, sprinkled with the shapes of stars, will enchant us with mesmerizing shapes that play with our perception. Seen from afar, the arc of the shape references the trajectory of a plane taking off. From below the lines connect into an intricate pattern that appears to vacillate between 2D and 3D shapes. Similar to the way light is refracted by the water particles in the sky to create a rainbow, the colors of the sculpture are oriented to show different colors depending on the angle from which it is viewed.

Encompassing air flight and space flight with the first commercial spaceport in the world, Pentaplexity expresses the aspirations of the Houston Airport System to embrace the future of air and space travel.

More than forty years before the physicist Sir Roger Penrose won the 2020 Nobel Prize for his work on black holes, he wrote a little-known article in an obscure mathematical journal. Over the course of six pages published in 1979, he described a remarkable method of laying down tiles of just a few shapes – pentagons, stars, and diamonds – in such a way that the tiling pattern can extend into infinity in any direction yet it never precisely repeats itself. Before Penrose's work, it was thought that a

pattern with a finite number of shapes would end up repeating itself. Penrose called his aperiodic tiling system Pentaplexity. Penrose's infinite tiling system is a fitting analogy for the immensity and complexity of the universe, a topic that Penrose himself later probed.

About the Artist



A native Texan, Melissa grew up in Houston and has lived in many cities around the globe. She studied French and studio art in Boston and Paris and worked as a studio artist in San Francisco for several years before moving to Providence for graduate school. She received an MFA from Rhode Island School of Design in 2005 and moved back to Texas in 2006. She has created several immersive installations that delight audiences of all ages. She was commissioned by the City of Austin to create GloWave in

2014 and SkyLines in 2015. Art Alliance Austin commissioned ShadowDreams for the Downtown Holiday Stroll in 2014. Prismatic Installation was created for an exhibition at Lawndale Art Center in Houston and also exhibited at Texas State University galleries. She is a member of the VisonGland Collective for which she created KineticStars and KaleidoscopiCave in 2017. Melissa has been an artist in residence at Sculpture Space in Utica, NY, Vermont Studio Center, Houston Center for Contemporary Craft, and Platteforum in Denver.