TO THE SUN

A participatory Carillon concert event composed by Chris Chafe, performed by Tiffany Ng, and created by Greg Niemeyer, Willam Wu and Faye Held with NASA Parker Solar Probe data curated by Chelle Gentemann

Event Date

Friday, April 11, 2025, noon, Sather Tower, UC Berkeley

Overview

Two essential elements make life on Earth possible: the Sun's energy and the abundance of water. Yet, the Sun's inner workings remain obscured by enormous distance and heat. To uncover its mysteries, NASA launched the Parker Solar Probe, which has now reached its closest solar orbit. The spacecraft's observations provide groundbreaking scientific insights and also reveal stunningly beautiful data about a world beyond our imagination—and at the very core of all life.

Parker Solar Probe is the fastest human-made object ever, traveling at up to 430,000 mph, and the first spacecraft to fly through the Sun's atmosphere—a daring mission to understand the solar wind and space weather that impact Earth.

To the Sun celebrates this extraordinary journey with an interactive carillon performance premiering at UC Berkeley on April 11, 2025, at noon at Sather Tower. The event features music composed by Chris Chafe, performed by carillonist Tiffany Ng, and an interactive web app by Greg Niemeyer that allows audiences to play along with the carillon while experiencing Parker Solar Probe's breathtaking journey—from Earth to the landscape of an unimaginable place, the Sun, past Venus and Mercury, through plasma storms, dust rings, and intense magnetic fields.

NASA's Open Science Program Scientist, Dr. Chelle Gentemann, guided the project scientifically, noting: *"We've never been this close to the Sun before. Parker Solar Probe is flying through the Sun's corona for the first time in human history. This concert transforms that data into music—so you're not just hearing the science, you're part of it as well."*

UC Berkeley students William Wu and Faye Held helped develop the web app and visualizations. They reflect: *"We're celebrating this incredible milestone in human awareness*

and offering a lyrical portal to the Sun—the life-giving giant at the center of our solar system: unreachable, yet something we feel every day."

Tiffany Ng, a champion of contemporary music for carillon, embraces this innovation: *"Playing bell towers puts carillonists just a little closer to the Sun. This project also brings us closer to our audiences on the ground to make music together. Long the tellers of time, carillon bells will now also give voice to space-age open data."*

Chris Chafe, who has pioneered data sonification at Stanford for three decades, observes: *"My first programs to generate music shared time on mainframe computers with programs to calculate satellite trajectories. I'm thrilled to bring these two seemingly separate human endeavors together again. Fast-forward from 1978 to this moment where we are literally embracing the Sun."*

After the premiere at UC Berkeley, the concert will tour to other carillons, including at the University of Chicago and the University of Michigan, Ann Arbor.

This unique and rare event is free and open to the public, no registration required. For more information, please visit https://www.suncarillon.org

"To The Sun" was co-developed on the occasion of the 20th anniversary of the Berkeley Center for New Media by Greg Niemeyer (Professor of Media Innovation, UC Berkeley), Chris Chafe (Duca Family Professor, Center for Computer Research in Music and Acoustics, Stanford University), Chelle Gentemann (Open Science Program Scientist, Office of the Chief Science Data Officer, NASA, on Intergovernmental Personnel Act (IPA) assignment from the International Computer Science Institute), Tiffany Ng (University Carillonist, University of Michigan), William Wu (UC Berkeley), Faye Held (UC Berkeley) and Tristan Peng (Stanford University).