

**Ge Wang** is an Associate Professor at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA). He researches artful design of tools, toys, games and social experiences. Ge is the architect of the ChuckK music programming language and the director of the Stanford Laptop Orchestra. He is the Co-founder of Smule and the designer of the Ocarina and Magic Piano apps for mobile phones. A 2016 Guggenheim Fellow, Ge is the author of *Artful Design: Technology in Search of the Sublime*, a photo comic book about how we shape technology—and how technology shapes us.

**Jack Atherton** is a Ph.D. student at CCRMA studying design for human flourishing. He is the TA for SLOrk this year and loves singing in his spare time.

**Cara Turnbull** is a second-year master's student studying Music, Science, and Technology at CCRMA. She completed her undergraduate studies at Ithaca College with a double major in double bass performance and sound recording technology. She is a member of the Neuromusic Lab at CCRMA, and is interested in music cognition and the relationships between performers and listeners. This fall she will begin a PhD in Musicology at Princeton University, with research focusing on music perception and cognition.

**Hillary Hermawan** is second best at speaking Indonesian in the group.

**Mark Sabini** has stacked packets of Indomie in his dresser.

Dr. **Anne K. Hege** completed her Ph.D. in Music Composition at Princeton University where she composed for PLOrk and studied embodied cognition theory and how it can be used to understand how to make musical multimedia meaningful. She has written music for film, installation art, dance, and concert settings. Hege performs original works in her performance duo New Prosthetics, as well as in the laptop ensemble Sideband. Currently, Hege teaches voice at Mills College in Oakland and directs Level IV of the SF Girls Chorus. Influenced by her deep listening practice, her latest compositions lie somewhere between ritual and music with some homemade instruments thrown in for good measure.

**Elena Georgieva** is a current masters student at CCRMA where she works on projects related to music, technology, and psychology. Elena is a singer and vocal producer and enjoys distorting vocals to create fun and engaging pieces of music. She performed with SLOrk last spring and is excited to be back working on the 'laptopera' this year!

**Camille Noufi** is a vocalist and first-year PhD student at CCRMA fascinated by the power and nuance of the human voice. She draws upon signal processing, AI and human-computer-interaction techniques to study the nuances of vocal expression and perception. In addition to research, she continues to train and perform as a singer. She is thrilled to use the concept of a "laptopera" to combine the incredibly versatile mediums of voice, body, and laptop into a live musical performance.



**The Stanford Laptop Orchestra (SLOrk)** is a large-scale, computer-mediated ensemble that explores cutting-edge technology in combination with conventional musical contexts—while transforming both. Founded in 2008 by Ge Wang with students, faculty, and staff at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA), SLOrk consists of more than 20 laptops, human performers, controllers, and custom multi-channel speaker arrays designed to provide each computer meta-instrument with its own identity and presence. The orchestra fuses a powerful sea of sound with the immediacy of human music-making, capturing the irreplaceable energy of a live ensemble performance and its sonic intimacy. At the same time, the orchestra makes use of the computer's capabilities, possibilities for new sounds, and interactions to experiment with instrument design and new its performance. Offstage, the ensemble serves as a unique classroom that explores music, computer science, artful design, composition, and live performance in a naturally interdisciplinary way.

**Next SLOrk Concert:** June 8, 2019, Bing Concert Hall | <http://slork.stanford.edu/>

# Stanford Laptop Orchestra (SLOrk) presents SLOrktastic Chamber Music 2019

May 2, 2019, Thursday 7:30pm  
CCRMA Stage, Stanford University



## Ensemble

Munira Alimire | Hassan Estakhrian | Ben Gaiarin | Elena Georgieva  
Anne Hege | Hillary Hermawan | Kunwoo Kim | Camille Noufi | Mark Sabini  
Ryan Smith | Cara Turnbull | Jack Atherton | Trijeet Mukhopadhyay

## Director

Ge Wang

## Co-directors

Matt Wright, Trijeet Mukhopadhyay, Jack Atherton



### **a breeze brings...** (2006)

*Scott Smallwood*

This "prelude" came about as a result of several mornings of hacking in Chuck. As I listened to the wind chimes outside my door, I began to realize that they were influencing the intuitive process of my experimentations. Before long I had created some algorithmic instruments that sounded rather nice together. This piece grows slowly out of the acoustic soundscape of the space, and then slowly subsides back into it, like a very slow breeze.

### **Breath** (2019)

*Ryan Smith & Kunwoo Kim*

We desire to be the person we know we are but also to be the person envisioned by others. And we know the struggle to reconcile these two conceptions is futile, yet we cannot help but to persist.

### **Powers of Ten** (2019)

*Hassan Estakhrian & Trijeet Mukhopadhyay*

"Powers of Ten" is based off of a 1977 short film with the same title by Charles and Ray Eames. The original film "illustrates the universe as an arena of both continuity and change." Extending from this idea, we invite spectators to explore these connected macro/microcosms.

You. Me. Us. It. So many levels—different, yet similar. Let us contemplate in the intricacies of the unknown.

### **Giography** (2015)

*Ge Wang*

"Giography" is based on an instrument called Intervalia—created in 2014 by Gio Jacuzzi in the course, Music 220b: Compositional Algorithms, Psychoacoustics, and Spatial Processing. Here it is reworked as a networked instrument for laptop orchestra. Musical gestures originate from a single performer typing on the computer keyboard, and emanate throughout the ensemble. This work is named in honor of the creator of the original instrument—and for the spaces it explores.

### **Modern Times** (2019)

*Munira Alimire & Ben Gaiarin*

Modern Times is a short-form audio retelling of an iconic scene from Charlie Chaplin's *Modern Times* (1936). In the film, the character struggles to survive in the chaos of a modern, industrialized world. Are we any different today?

### **Animal Farm** (2019)

*Cara Turnbull*

"Animal Farm" is inspired by George Orwell's 1945 novella of the same title. Depicting an uprising of farm animals against their human masters, the original novella was an allegory for the events leading up to the 1917 Russian Revolution and subsequent Stalinist era of the Soviet Union. This piece, set 100 years after the events of Orwell's novel, provides a commentary on the current American political climate. In this piece you'll hear the sounds of various farm animals mixed with the voices of several prominent politicians who have announced their intentions to run for president in the upcoming election. The arc of the piece explores the boundary between man and beast, as well as the feelings of both optimism and futility that come with having so many voices speaking out at once.

### **jalan-jalan (walking)** (2019)

*Hillary Hermawan & Mark Sabini*

A shadow puppet takes a nighttime walk.

### **The Furies: A Laptera** (2019)

*Anne Hege*

Tonight is the first showing of an excerpt of *The Furies*, an opera for laptop orchestra. Based on the Greek tragedy, *Electra*, this scene is the beginning of Act III where the Furies, tasked with the responsibility of maintaining moral order, descend upon Electra and her sibling Orestia after they have murdered their mother. In this scene, the Furies as the chorus made up of the laptop orchestra ensemble, offer a brutal redemption to the criminals. Using the six channel hemispherical speakers, GameTrak tether controllers, networking, voices, movement, and a rope, the laptop orchestra enacts a ritual to redeem the worst of crimes. *My thanks to my technical team Elena Georgieva and Camille Noufi for their assistance with the creation and refinement of the instruments as well as their beautiful singing!*

---

**Scott Smallwood** was born in Dallas, Texas, and grew up at 10,000 feet in elevation in the Colorado Rockies. At the age of 10, his father gave him a cassette tape recorder, and ever since he has been fascinated by the possibilities of recorded sound. He listens and makes recordings and observations of places and objects, and draws the resulting sounds into compositions and performances. Ranging from sonic photographs, studio compositions, instrumental pieces, sound installations, and improvisations, the resulting pieces are often textural, always mindful of space and subtlety. As a performing artist, Smallwood has performed as a percussionist, pianist, and electronic musician on laptops, synthesizers, noise generators, and handmade electronic instruments. He currently lives in Edmonton, Alberta, where he is an assistant professor of composition at the University of Alberta, and where he also serves as Director of the Humanities Computing MA program.

**Kunwoo Kim** researches in designing aesthetic lenses of human values in various audiovisual media. He aspires to expand his design into social, philosophic, and ethical dimensions of virtual reality, and suggest future directions and artful methods of imbuing human nature and music into this immersive medium to a general audience.

**Ryan Smith** is a senior majoring in Symbolic Systems. He is interested in sound, specifically everything about it.

**Hassan Estakhrian** is a composer, performer (vocalist & multi-instrumentalist), and intermedia producer. He collides rock/funk/jazz with experimental/chamber music and incorporates electronics and various forms of media. Hassan's compositional aesthetic is represented by a variety of quirky creations and narratives—animal avatars flown across a 3D simulated environment with Wiimotes manipulating various parameters of music, a musical game with graphic scorecards, sci-fi rock operas about turkey sandwiches and social inequality, a work framed around a sandbox, toys, a boy, and sea critters, and a mixed-chamber piece with prepared piano. These pieces and more can be explored at [antennafuzz.com](http://antennafuzz.com).

**Trijeet Mukhopadhyay** is a new-media artist and interaction designer. He completed his bachelor's in Computer Science at Stanford University, and is currently finishing his master's in Human Computer Interaction at Stanford. His studies focus on design theory and methodology, as well as tools for creative expression. He also studies computer music at CCRMA at Stanford. His work in this space includes design of musical experiences, sound design, installation art, and composition for computer ensembles. Fun fact: Trijeet's never been at Stanford and not been in SLOrk. He currently holds the record for the longest standing contiguous member of group.

**Munira Alimire** is an extremely excitable frosh who makes up for her lack of experience with buckets of enthusiasm. She's from Rochester, Minnesota and she'll never let you hear the end of it. Outside of SLOrk, you can find her participating in the godless arena of student politics.

**Ben Gaiarin** is very much a tired senior, but what he lacks in youthful enthusiasm, he makes up with wisdom and a countdown to when he graduates. When he isn't at CCRMA cranking out his code, Ben enjoys cooking and planning for what he'll do after Stanford.