


Stanford




Chris Chafe

Duca Family Professor

Music

 Curriculum Vitae available Online

 Resume available Online

Bio

BIO

Chris Chafe is a composer, improviser, and cellist, developing much of his music alongside computer-based research. He is Director of Stanford University's Center for Computer Research in Music and Acoustics (CCRMA). In 2019, he was International Visiting Research Scholar at the Peter Wall Institute for Advanced Studies The University of British Columbia, Visiting Professor at the Politecnico di Torino, and Edgard-Varèse Guest Professor at the Technical University of Berlin. At IRCAM (Paris) and The Banff Centre (Alberta), he has pursued methods for digital synthesis, music performance and real-time internet collaboration. CCRMA's jacktrip project involves live concertizing with musicians the world over. Online collaboration software and research into latency factors continue to evolve. An active performer either on the net or physically present, his music reaches audiences in sometimes novel venues. An early network project was a simultaneous five-country concert was hosted at the United Nations in 2009. Chafe's works include gallery and museum music installations which are now into their second decade with "musifications" resulting from collaborations with artists, scientists and MD's. Recent work includes the Earth Symphony, the Brain Stethoscope project (Gnosisong), PolarTide for the 2013 Venice Biennale, Tomato Quintet for the transLife:media Festival at the National Art Museum of China and Sun Shot played by the horns of large ships in the port of St. Johns, Newfoundland.

ACADEMIC APPOINTMENTS

- Professor, Music
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Center for Computer Research in Music and Acoustics, (1996- present)

PROGRAM AFFILIATIONS

- Symbolic Systems Program

Teaching

COURSES

2021-22

- Fundamentals of Computer-Generated Sound: MUSIC 220A (Aut)
- Research Seminar in Computer-Generated Music: MUSIC 220C (Spr)

2020-21

- Fundamentals of Computer-Generated Sound: MUSIC 220A (Sum)

- Network Performance Practice: ARTSINST 141, MUSIC 153A (Aut)
- Network Performance Practice: MUSIC 153AZ (Aut)
- Research Seminar in Computer-Generated Music: MUSIC 220C (Spr)

2019-20

- Internet Ensemble Tech Force: MUSIC 153B (Spr)

2018-19

- Fundamentals of Computer-Generated Sound: MUSIC 220A (Aut)
- Online Jamming and Concert Technology: ARTSINST 141, MUSIC 153 (Aut)
- Research Seminar in Computer-Generated Music: MUSIC 220C (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Jack Atherton, Hassan Estakhrian, Scott Oshiro, Julie Zhu

Doctoral Dissertation Advisor (AC)

Nolan Lem

Master's Program Advisor

Noah Berrie, Kiran Gandhi, Angela Lee, Nick Shaheed

Doctoral Dissertation Co-Advisor (AC)

Doga Cavdir

Doctoral (Program)

Clara Allison, Kimia Koochakzadeh-Yazdi, Douglas McCausland, Scott Oshiro

Publications

PUBLICATIONS

- **Experiencing Remote Classical Music Performance Over Long Distance: A JackTrip Concert Between Two Continents During the Pandemic** *JOURNAL OF THE AUDIO ENGINEERING SOCIETY*
Bosi, M., Servetti, A., Chafe, C., Rottondi, C.
2021; 69 (12): 934-945
- **Temporal Coordination in Piano Duet Networked Music Performance (NMP): Interactions Between Acoustic Transmission Latency and Musical Role Asymmetries.** *Frontiers in psychology*
Washburn, A., Wright, M. J., Chafe, C., Fujioka, T.
2021; 12: 707090
- **Improved Real-Time Monophonic Pitch Tracking with the Extended Complex Kalman Filter** *JOURNAL OF THE AUDIO ENGINEERING SOCIETY*
Das, O., Smith, J. O., Chafe, C.
2020; 68 (1-2): 78-86
- **A Deep Learning Approach for Low-Latency Packet Loss Concealment of Audio Signals in Networked Music Performance Applications**
Verme, P., Mezza, A., Chafe, C., Rottondi, C., Balandin, S.
IEEE.2020: 268-75
- **Delayed feedback embedded in perception-action coordination cycles results in anticipation behavior during synchronized rhythmic action: A dynamical systems approach.** *PLoS computational biology*
Roman, I. R., Washburn, A. n., Large, E. W., Chafe, C. n., Fujioka, T. n.
2019; 15 (10): e1007371

- **Detecting silent seizures by their sound.** *Epilepsia*
Parvizi, J., Gururangan, K., Razavi, B., Chafe, C.
2018
- **Detecting silent seizures by their sound** *Epilepsia*
Parvizi, J., Gururangan, K., Razavi, B., Chafe, C.
2018; 59 (4): 877-884
- **Op 1254: Music for Neutrons, Networks and Solenoids using a Restored Organ in a Nuclear Reactor**
Handberg, L., Elblaus, L., Chafe, C., Canfield-Dafilou, E., ACM
ASSOC COMPUTING MACHINERY.2018: 537-41
- **Don't Be Alarmed: Sonifying Autonomous Vehicle Perception to Increase Situation Awareness**
Gang, N., Sibi, S., Michon, R., Mok, B., Chafe, C., Ju, W., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2018: 237-46
- **Mobile Music, Sensors, Physical Modeling, and Digital Fabrication: Articulating the Augmented Mobile Instrument** *APPLIED SCIENCES-BASEL*
Michon, R., Smith, J., Wright, M., Chafe, C., Granzow, J., Wang, G.
2017; 7 (12)
- **An Overview on Networked Music Performance Technologies** *IEEE ACCESS*
Rottondi, C., Chafe, C., Allocchio, C., Sarti, A.
2016; 4: 8823-8843
- **Synthetic Sound from Synthetic Biology** *SYNTHETIC AESTHETICS: INVESTIGATING SYNTHETIC BIOLOGY'S DESIGNS ON NATURE*
Chafe, C., Leguia, M., Ginsberg, A., Calvert, J., Schyfter, P., Elfick, A., Endy, D.
2014: 219-30
- **Sound synthesis for a brain stethoscope.** *journal of the Acoustical Society of America*
Chafe, C., Caceres, J., Iorga, M.
2013; 134 (5): 4053-?
- **Internet rooms from internet audio.** *journal of the Acoustical Society of America*
Chafe, C., Granzow, J.
2013; 133 (5): 3347-?
- **JackTrip/SoundWIRE Meets Server Farm** *COMPUTER MUSIC JOURNAL*
Caceres, J., Chafe, C.
2010; 34 (3): 29-34
- **Effect of temporal separation on synchronization in rhythmic performance** *PERCEPTION*
Chafe, C., Caceres, J., Gurevich, M.
2010; 39 (7): 982-992
- **JackTrip: Under the Hood of an Engine for Network Audio** *JOURNAL OF NEW MUSIC RESEARCH*
Caceres, J., Chafe, C.
2010; 39 (3): 183-187
- **Tapping into the Internet as an Acoustical/Musical Medium** *CONTEMPORARY MUSIC REVIEW*
Chafe, C.
2009; 28 (4-5): 413-420
- **Analysis of Flute Control Parameters: A Comparison Between a Novice and an Experienced Flautist** *ACTA ACUSTICA UNITED WITH ACUSTICA*
de la Cuadra, P., Fabre, B., Montgermont, N., Chafe, C.
2008; 94 (5): 740-749
- **Neural dynamics of event segmentation in music: Converging evidence for dissociable ventral and dorsal networks** *NEURON*
Sridharan, D., Levitin, D. J., Chafe, C. H., Berger, J., Menon, V.
2007; 55 (3): 521-532

- **Cyberinstruments via physical modeling synthesis: Compositional applications** *LEONARDO MUSIC JOURNAL*
Kojs, J., Serafin, S., Chafe, C.
2007; 17: 61-66
- **Oxygen flute: A computer music instrument that grows** *JOURNAL OF NEW MUSIC RESEARCH*
Chafe, C.
2005; 34 (3): 219-226
- **Physical model synthesis with application to Internet acoustics** *IEEE International Conference on Acoustics, Speech, and Signal Processing*
Chafe, C., Wilson, S., Walling, D.
IEEE.2002: 4056-4059
- **DREAM MACHINE 1990** *COMPUTER MUSIC JOURNAL*
CHAFE, C.
1991; 15 (4): 62-64
- **TOWARD AN INTELLIGENT EDITOR OF DIGITAL AUDIO - RECOGNITION OF MUSICAL CONSTRUCTS** *COMPUTER MUSIC JOURNAL*
CHAFE, C., MONTREYNAUD, B., Rush, L.
1982; 6 (1): 30-41