

Curriculum Vitae

Christopher David Chafe

December 30, 2016

(bold text highlights the period Sep 2015 thru Aug 2016 for Faculty Annual Report)

Date and Place of Birth: 5 December, 1952, Berne, Switzerland (U.S. Citizen)

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EDUCATION

DMA, Music Composition, 1983, Stanford University. MA, Music Composition, 1977, U.C. San Diego. BA, Music, 1974, Antioch College.

HONORS AND AWARDS

Stanford Bio-X grant, Synthetic Aesthetics Residency, 2010, iCore Professorship 2008, NSF Grant, 2008, OTL Birdseed Funding 2003, Media X Award 2003, Net Challenge Prize, IEEE / ACM SC2000, Best Paper, ISORA 2000, NSF Research Award, 1999-2001, Scholarship, Banff Centre for the Arts, Sum. 2000, Stanford President's Funding Award for Internet2 Application Development, Scholarship, Banff Centre for the Arts, 1998-99, Hewlett Faculty Grant, 1997-98, William H. and Frances Green Faculty Fellow, 1995-96, ASCAP Composer's Special Award, 1992-present, Composer's Fellowship, National Endowment for the Arts, 1994-95, Arts International Grant, 1991, Honorable Mention, Bourges Electronic Music Competition, Bourges, Fr., 1984, Composer's Fellowship, National Endowment for the Arts, 1983, Composition Prize, Bourges Electronic Music Competition, Bourges, Fr., 1982, Alice Hayne Fellowship, UCSD, 1976, Associate Fellow, Center for Music Experiment, UCSD, 1975, Regent's Fellowship, UCSD, 1974.

WORK EXPERIENCE

2004 to present: Duca Family Professor, Stanford University.

1995 to present: Director, CCRMA.

2008 to 2009: iCore Visiting Professor, The Banff Centre.

2001 to 2003: Professor of Music, Stanford University.

1998-99, Sum. 00: Resident Artist, Banff Centre for the Arts.

Summer, 1998: Lecturer, Zentrum für Kunst und Medientechnologie, Karlsruhe.

1994-97: Chair, Department of Music.
 1994 to 2001: Associate Professor of Music, Stanford University.
 1992-93: Acting Director, CCRMA.
 1989-1994: Associate Professor of Music (Research).
 1985-1989: Senior Research Associate, Lecturer, Technical Coordinator, CCRMA.
 1984-1985: Staff Research Associate (NSF support), Lecturer, CCRMA.
 1983-1984: Chercheur Informatique, IRCAM (physical modelling, real-time additive synthesis and taught the annual summer course.
 Spring, 1983: Lecturer, School of Science, San Francisco State University.
 1983: Staff Research Associate (NSF support), CCRMA.
 1978-1982: Student Research Associate (NSF support), Instructor Summer Workshops, CCRMA.

PUBLICATIONS

- R. Michon, C. Chafe, N. Gang, M. Johns, S. O’Modhrain, M. Wright, D. Sirkin, W. Ju, N. Gowda “A Faust Based Driving Simulator Sound Synthesis Engine” *Proc. of the SMC Conf.*, Hamburg, 2017
- R. Michon, J. Smith, C. Chafe, G. Wang, M. Wright “Nuance: Adding Multi-Touch Force Detection to the iPad” *Proc. of the SMC Conf.*, Hamburg, 2017
- C. Rottondi, C. Chafe, C. Allochio, A. Sarti “An Overview on Networked Music Performance Technologies” *IEEE Access*. (accepted Nov 2016)
- C. Chafe, “(The) Speaking of Characters, Musically-Speaking” in *Live Electronic Music: Composition, Performance*, Routledge, (forthcoming, 2017)
- C. Chafe, “Polartide” *Computer Music J.* 38(4): Sound and Video Anthology, 2014
- C. Chafe, M. Leguia “Synthetic Sound from Synthetic Biology” in *Synthetic Aesthetics*, MIT Press, 2014
- C. Chafe “Síntesis Vocal por FM Libre de ‘Clicks’ ” in *Proc. of the Cong. Internacional de Ciencia y Tecnología Musical*, Buenos Aires, (2013)
- C. Chafe “Glitch Free FM Vocal Synthesis” *Proc. of the Stockholm Music Acoustics Conf.*, Stockholm, 2013
- C. Chafe, J. Granzow “Internet Rooms from Internet Audio” in *Proc. of the Int. Cong. Acoustics*, Montreal, (2013)
- C. Chafe “Living with Net Lag” *Proc. of the AES 43rd Intl. Conf.*, Pohang, S. Korea, 2011
- C. Chafe, J-P. Caceres, M. Gurevich, “Effect of temporal separation on synchronization in rhythmic performance” *Perception* 39(7): 982-992, 2010

- J-P. Caceres, C. Chafe, "JackTrip/SoundWIRE Meets Server Farm" *Computer Music J.* 34(3): 29-34, 2010
- J-P. Caceres, C. Chafe, "JackTrip: Under the Hood of an Engine for Network Audio" *J. New Music Res.* 2010
- N. Dairabi, P. Svensson, C. Chafe "Toward an algorithm to simulate ensemble rhythmic interaction based on quantifiable strategy functions" *Proc. of the AES 129th Conf.*, SF, 2010
- M. Kolar, J. Abel, R. Kolte, P. Huang, J. Rick, J. Smith, C. Chafe "A Modular Computational Acoustic Model of Ancient Chavín de Huántar, Perú" *Proc. of the 2nd Pan American/Iberian Meeting on Acoustics Conf.*, Cancun, 2010
- P. Cook, J. Abel, M. Kolar, P. Huang, J. Huopaniemi, J. Rick, C. Chafe, J. Chowning "Acoustic Analysis of the Chavín Pututus (*Strombus galeatus* marine shell trumpets)" *Proc. of the 2nd Pan American/Iberian Meeting on Acoustics Conf.*, Cancun, 2010
- C. Chafe, "Audio Setup and the Future of the Telematic Medium" in *Telematic Music: Six Perspectives Leonardo Music J.*, 19, 2009
- C. Chafe, "Tapping into the Internet as a Musical / Acoustical Medium" *Contemporary Music Review.* 28(4,5): 413-420, 2009
- S. Devarajan, D. Levitin, C. Chafe, J. Berger, V. Menon, "Neural Dynamics of Event Segmentation in Music: Converging Evidence for Dissociable Ventral and Dorsal Networks", *Neuron*, 2007
- J. Kojs, S. Serafin, C. Chafe, "Cyberinstruments via Physical Modeling Synthesis: Compositional Applications" *Leonardo Music J.*, 17, 2007
- C. Chafe, "Oxygen Flute, A Computer Music Instrument that Grows" *J. New Music Res.*, 34:(3), 2005
- C. Chafe, M. Gurevich "Network Time Delay and Ensemble Accuracy: Effects of Latency, Asymmetry" *Proc. of the AES 117th Conf.*, SF, 2004
- M.Gurevich, C. Chafe, G. Leslie, S. Tyan "Simulation of Networked Ensemble Performance with Varying Time Delays: Characterization of Ensemble Accuracy" *Proc. Intl. Computer Music Conf.*, Miami, 2004
- T. Leonard, C. Chafe, "New Movements in Digital Music" *HorizonZero*, 15, Banff, 2004
- C. Chafe, "Autonomous Virtuosity" for Roger Reynolds 70th, program contribution, UCSD, 2004
- C. Chafe, M. Gurevich, et al. "Effect of Time Delay on Ensemble Accuracy" *Proc. 2004 Intl. Soc. Musical Acoustics*, Nara, 2004

- C. Chafe, "Physical Model Synthesis in Music Composition" *Proc. 2004 Intl. Congress Acoustics*, Kyoto, 2004
- C. Chafe, "Distributed Internet Reverberation for Audio Collaboration" *Proc. of the AES 24th Int. Conf.*, Banff, 2003
- C. Chafe, "Oxygen Flute, A Computer Music Instrument that Grows" *Proc. 2002 Keihanna Multimedia Festival*, Kyoto, 2002
- C. Chafe, S. Wilson, D. Walling, "Physical Model Synthesis with Application to Internet Acoustics," *Proc. 2002 Intl. Conference on Acoustics, Speech and Signal Processing*, Orlando, 2002
- C. Chafe, R. Leisikow, "Levels of Temporal Resolution in Sonification of Network Performance," *Proc. 2001 Intl. Conference on Auditory Display*, Helsinki, 2001
- C. Chafe, et al., "A Simplified Approach to High Quality Music and Sound Over IP," *Proc. COST-G6 Conference on Digital Audio Effects (DAFx-00)*, Verona, 2000.
- S. O'Modhrain, C. Chafe, "The Performer-Instrument Interaction: A Sensory Motor Perspective," *Proc. Intl. Computer Music Conf.* Berlin, 2000.
- S. O'Modhrain, S. Serafin, C. Chafe, et al., "Influence of Attack Parameters on the Playability of a Virtual Bowed Instrument: Tuning the Model," *Proc. Intl. Computer Music Conf.* Berlin, 2000.
- S. O'Modhrain, C. Chafe, "Incorporating Haptic Feedback into Interfaces for Music Applications," *Proc. Intl. Soc. Robotics and Automation*. Maui, 2000. (best paper award)
- C. Chafe, "Round Table," in M. Wanderley and M. Battier, eds. *Trends in Gestural Control of Music*. (electronic book) IRCAM, Paris, 2000.
- C. Chafe, "Interplay(er) Machines," *Contemporary Music Review*. Harwood Academic Publ. London, 18(3): 87-95, 1999 (plus accompanying compact disc with excerpts of 3 compositions)
- C. Chafe, "A Short History of Digital Synthesis by Composers in the U.S.A.," *Creativité & Informatique*. Recontres Musicales Pluridisciplinaires, Lyon, March, 1999.
- C. Chafe, "Vicarious Synthesizers: Listening for Timbres," *Proc. Intl. Symp. on Musical Acoustics*. Leavenworth, WA, June, 1998.
- C. Chafe, "Statistical Pattern Recognition for Prediction of Solo Piano Performance," *Proc. Intl. Computer Music Conf.* Thessaloniki, Sept. 1997.
- C. Chafe, "On Collaborations, Documents and Talking to a TV," *Proc. 1997 Symposium on Science, Art, Internet, MultiMedia*. Mozarteum, Salzburg

- C. Chafe, S. O'Modhrain "Musical Muscle Memory and the Haptic Display of Performance Nuance," *Proc. Intl. Computer Music Conf.* Hong Kong, Sept. 1996. [STAN-M-99]
- C. Chafe, "Adding Vortex Noise to Wind Instrument Physical Models," *Proc. Intl. Computer Music Conf.* Banff, Sept. 1995. [STAN-M-91]
- also in, *Proc. 1995 Intl. Meeting on Physical Modeling*, Institute for Psychoacoustic and Music Research, U. of Thessaloniki, July, 1995.
- C. Chafe, "Pulsed Noise and Micro-Transients in Physical Models," *Proceedings of the 1990 Physical Modeling Colloquium*, Grenoble, Editions de la Maison des Sciences de l'Homme, 1994, Paris. [STAN-M-65]
- C. Chafe, "Tactile Audio Feedback," *Proc. Intl. Computer Music Conf.* Tokyo, Sept. 1993. [STAN-M-81]
- C. Chafe, "Dream Machine '90," *Computer Music Journal*. 15(4): 62-64, 1991.
- C. Chafe, "Pulsed Noise in Self-Sustained Oscillations of Musical Instruments," *Proc. IEEE Intl. Conf. Acoust. Sp. and Sig. Proc.* Albuquerque, April 1990. [STAN-M-61]
- R. Schumacher and C. Chafe, "Detection of Aperiodicity in Nearly Periodic Signals," *Proc. IEEE Intl. Conf. Acoust. Sp. and Sig. Proc.* Albuquerque, April 1990.
- C. Chafe, "Computer Music: New Models for Synthesis and Analysis," *International Symposium, Computer World*. Kobe, October 1988.
- C. Chafe, "Simulating Performance on a Bowed Instrument," in M. Mathews, ed., *Current Directions in Computer Music*. MIT Press, Cambridge, MA, 1989. (plus accompanying compact disc with sound examples) [STAN-M-48]
- C. Chafe and D. Jaffe, "Source Separation and Note Identification in Polyphonic Music," *Proc. IEEE Conf. Acoust. Sp. and Sig. Proc.*, Tokyo, 2: 25.6.1-25.6.4, April 1986. [STAN-M-34]
- C. Chafe (text consultant), "A New Definition of Control," in *Input/Output*. by the editors of Time-Life Books, Alexandria, VA, 1986.
- C. Chafe, "Bowed String Synthesis and Its Control From a Physical Model," 1986. [STAN-M-32]
- C. Chafe, J. Smith and P. Wood, "Current Work at CCRMA: An Overview," *Proc. Intl. Computer Music Conf.* The Hague, 1986.
- C. Chafe, D. Jaffe, et al. "Techniques for Note Identification in Polyphonic Music," *Proc. Intl. Computer Music Conf.* Vancouver, 1985. [STAN-M-29]
- C. Chafe, B. Mont-Reynaud and L. Rush, "Toward an Intelligent Editor of Digital Audio: Recognition of Musical Constructs," *Computer Music Journal* 6(1): 30-41, 1982.

C. Chafe, "A Comparison of Timbres Inherent in Traditional Violoncello Playing"
Catgut Acoustical Society Newsletter, 29: 19–22, 1978.

Music Dept. Tech. Rep. Stanford U. are noted as [STAN–M–xx], these
CCRMA pubs. are available by request to info@ccrma.stanford.edu or
exist online at <http://www-ccrma.stanford.edu>

PATENTS

- No. **9,354,335**, issued 31-May-16, "**Determining Location Information of Micro-seismic Events During Hydraulic Fracturing**"
- No. 14/301,270, issued 23-Oct-14, "Glitch-Free Frequency Modulation Synthesis of Sounds"
- (pending) No. 61/914,567, filed 11-Dec-13, "Method of Sonifying Signals Obtained from a Living Subject"
- (pending) No. 61/653,370, filed 30-May-12, "Method for listening to brain electrical activity"
- No. 7,522,734, issued 21-May-09, "Distributed Acoustical Reverberation for Audio Collaboration"
- No. 6,801,939, issued 14-May-04 "Method for Evaluating Quality of Service of a Digital Network Connection"
- No. 5,508,473, issued 16-Apr-96, "Music Synthesizer and Method for Simulating Period Synchronous Noise Associated with Air Flows in Wind Instruments"
- No. 5,157,216, issued 20-Oct-92, "Musical Synthesizer System and Method Using Pulsed Noise for Simulating the Noise Component of Musical Tones"

LECTURES, MASTER CLASSES

(* = invited, + = juried submission)

- 2016: * Stanford, CS Dept.
* UC Irvine, San Diego, joint online
* Stanford MediaX
* U Michigan
* **St. Johns Sound Symposium**
* **Stanford Global Entrepreneur Summit**
* **Stanford Medical Resonance: Music and the Brain**
* **Stanford LASER**
* **U British Columbia, Peter Wall Institute**
* **UC Berkeley**
Stanford CCRMA colloq x2
* **NYU AES Panel**
- 2015: * **Keynote, U of Tromsø**
* UNAM
* U of Edinburgh
* U of Calgary, Music Dept.
* U of Calgary, CS Dept.

- * U de Manizales
- * Stanford, MediaX
- * NIH, Bethesda
- * Cal Arts
- * Stanford LASER
- * UC Santa Barbara
- 2014: * Stanford LASER
- * UC Berkeley
- * U of London Inst. of Phil.
- * U of London AHRC
- * U of Durham
- * U of Guanajuato
- * Shanghai Conservatory
- * Recombinations, Stanford
- * Cal. Inst. Arts
- * McGill U.
- * Keynote, Sennheiser, SF
- 2013: * Townsend Humanities, UCB
- * U of VA
- * Conservatory U of Buenos Aires
- * World Opera Projec Workshop, Struer, DK
- + Stockholm Musical Acoustics Conf
- + Deep Listening Conf EMPAC, RPI
- * Acoustical Soc. Am., SF
- * Zero1 Garage, San Jose
- * Music and Brain, Stanford
- * Keynote, Peabody Conservatory
- 2012: * NASA Ames
- * MIT
- * Memorial U.
- * Leonardo / Cont'g Studies, Stanford
- * U. Calgary (lecture, workshop)
- * The Banff Centre
- 2011: * ASA, San Diego
- * AES, Pohang, S. Korea
- * AES SF
- * SB 5.0 satellite workshop Synthetic Aesthetics, Stanford
- * ECog, Stanford
- * LA Women in Music
- * UWMilwaukee
- 2010: * BioX, Stanford
- * Memorial U., St. John's
- * Alumni Panel, UCSD
- * WAFUNIF, UN, NYC
- * Recording Expo, W. LA Music
- * Workshop, AES, SF

- * Parvizi Lab, SUMC
- * 01SJ, San Jose
- * Keynote SUMC Radiology Retreat, Asilomar
- * Keynote Sounding Out 5, Bournemouth, UK
- * 01SJ, San Jose
- * Network Performance Summer Workshop, CCRMA
- * ASCAP EXPO, LA
- * ResoNations Panel, NYU
- * Kava Gallery, Berkeley
- * Keynote YoungCT Forum, Gangwan-do, Korea.
- 2009: * Music in Glob. Vill. Conf., Budapest
- * Leonardo Laser / SETI, Mtn. View
- * Leading Matters, NYC
- * Pasadena Art College of Design
- * UofMont.
- * eINTERFACE 09 Genoa,
- *+ SMC 2009, Porto
- * Coll. Mus. Soc., E. Wash. U.
- * UofCalgary
- * UofCalgary
- 2008: * Artech 2008, Porto
- * EMPAC Opening, RPI
- * Festival Musica Nova, USP, Sao Paulo
- * UCR
- * World Opera Project, Tromso, Norway
- * ANET Summit II, Banff
- * UCB/CNM Leonardo
- 2007: * Northwestern U. Int'l. Soc. Imp. Music (via teleconf.)
- * New Orleans Acoust. Soc. Am. Mtg.
- * UCB/CNM 070707
- * KAIST Int'l. Symp. Culture Tech. (Seoul)
- * UCSB
- * SARC, Belfast (via teleconf.)
- * NYU
- 2006: * Stanford Homecoming Panel
- * 121st Audio Eng. Soc., SF
- * SFMOMA
- * Stanford Historical Society
- * Visiones Sonoras, Morelia, MX
- * Museo Nacional Reina Sofia, Madrid
- * UCR
- * UCSC
- * NCKU, Tainan
- * NTNU, Taipei x2
- * USC
- 2005: * UGuanajuato, MX

- * UCB
- * Acad. Mus., Wroclaw, PL
- 2004: * U. Simon Bolivar, Caracas
- * C. National de las Artes, Mexico, DF
- + AES, SF
- * Network Audio Summit, Banff
- * Taiwan
- * Stanford Kyoto Ctr.
- + ICA, Kyoto
- + ISMA, Nara
- 2003: * MediaX SU
- * Taegu, KR
- * Townsend Ctr., UCB
- + AES, Banff
- * PC Forum, Phoenix
- 2002: * UNM ATC Lecture
- * MediaX SU
- * Keihanna Multimedia Festival, Kyoto
- * IEEE/ICASSP Orlando
- * 020202 UC Berkeley
- 2001: + DAFX 2001, "Oxygen Flute" by video, Limerick
- * Acoustical Soc. of America, "Evolution of Teaching and Res. at CCRMA"
- + IEEE / ACM SC2001, bandwidth challenge, Denver
- * San Jose Museum of Art
- * ICAD 2001, Helsinki
- * CENIC, Corp. for Educ. Network Initiatives in Cal., "Art & Sci. Meet at CCRMA"
- * U.C. Berkeley Multimedia Research Center, "SoundWIRE"
- * SF Calif. Coll. of Arts & Crafts, "Ping Interactive Music Installation"
- * Natl. Academy of Sciences, "Digital Music Making"
- 2000: + IEEE / ACM SC2000, research exhibit, Dallas ("Most Captivating Application" Net Challenge Prize)
- * U of Suwon, Korea
- * UO
- * UW
- * UNM lecture and composition master class
- * AES Alberta Chapter
- * New Media Institute, Banff
- 1999: * Ecole Nationale de Musique de Villeurbaine, composition master class
- * Recontres Musicales Pluridisciplinaire, Lyon
- CelloFest 99, Banff
- Audio Associates Program, Banff
- Sync or Stream, Banff
- 1998: * Centro Ricerche Musicali, Rome
- * Summer Workshop, ZKM, Karlsruhe
- * ISMA 98, Leavenworth, WA

1997: * U. of Quilmes, Buenos Aires
 * U. of Moron, Buenos Aires
 + Intl. Comp. Music Conf., Thessaloniki, also tutorial lecture
 * Symposium on Science, Art, Internet, MultiMedia, Mozarteum, Salzburg
 1996: * Pomona College, Pomona
 +* Intl. Comp. Music Conf., Hong Kong, also tutorial lecture
 1995: * II Brazilian Symposium on Computer Music, Canela-RS, Brazil, keynote
 * U. of Thessaloniki
 * National U., San Diego
 * Hong Kong Academy for the Performing Arts, composer-in-residence
 + Intl. Comp. Music Conf., Banff
 1994: * ACREQ, Montreal
 Peabody Cons., Baltimore, Sidney M. Friedberg Lecturer in Music and Psych.
 UVA
 1993: + Acoustical Society of America, Denver
 * Centro Ricordi, Buenos Aires
 * LIPM, Buenos Aires
 + Intl. Comp. Music Conf., Waseda U., Tokyo
 Hochschule für Music und Darstellende Kunst, Vienna
 * UW, Systematic Musicology and Composition Seminars
 * CNMAT, UCB New Music Technology Series
 1992: * Intl. Meeting of Modern and Contemporary Music, Parma, Italy
 * Friends of Hopkins Marine Station, Monterey, CA
 * Composer's Forum, UIUC
 * Intl. Computer Music Colloq., Delphi, Greece
 * New Hampshire Music Festival Composer's Conf., Plymouth, NH
 * IEEE Computer Science Section, San Francisco
 1991: + IEEE Workshop on Speech and Signal Processing, New Paltz, NY
 * TCU, Ft. Worth
 SMU, Dallas
 * UNT, composer-in-residence
 1990: + Northwestern U.
 * Physical Modeling Colloquium, Grenoble
 + IEEE Intl. Conf. Acoustics, Speech and Signal Processing, Albuquerque
 1989: * Acoustical Society of America, Bay Area Chapter
 * Seminar on Academic Computing, Snowmass
 * Association for Women in Computing, San Francisco
 1988: * Artificial Intelligence and Multimedia Knowledge Processing, Kobe
 Music Dept., Clark U.
 * Society of Motion Picture and Television Engineers, San Francisco Chapter
 1986: Computer Science Dept., UCB
 Music Dept., Clark U.
 + IEEE Intl. Conf. Acoustics, Speech and Signal Processing, Tokyo
 1985: + Intl. Comp. Music Conf., Vancouver
 1984: * Dept. of Music, Northwestern U.
 IRCAM, Paris

+ Intl. Comp. Music Conf., Paris
 1982: + Intl. Comp. Music Conf., Venice
 * San Francisco Institute of Music and Drama, Composer Speaks Series
 Center for Music Experiment, UCSD
 Also: annual presentations to CCRMA Industrial Affiliates Mtg.

NETWORK CONCERTS (since 2004)

2016: U. Buenos Aires / CCRMA
York Toronto / CCRMA
New World Sym. / U Mich / RPI
York Toronto / Concordia / CCRMA

2015: **UVA / CCRMA**

2014: VA Tech / UC Santa Barbara / CCRMA
 VA Tech / CCRMA
 U of Birmingham / RPI / CCRMA *Quartetto Telematico*
 Bing Studio CCRMA / Brazil / Columbia / IRCAM / Mem. Uni. / U VA

2013: Miami NWS / CCRMA
 Zoo Labs, Oakland / CCRMA
 World Opera Project, Struer DK, UMKC
 CCRMA / Google Fiber Space, Kansas City
 Orpheus Ens. Ghent/ CCRMA
 Peabody / Singapore / CCRMA

2012: UNAM Mexico City / CCRMA
 Cali, CO / UMich / CCRMA
Telematic Trio, Arias, Oliveros, Chafe, Bogota / Troy NY / CCRMA
 Bogota / Sao Paulo / CCRMA

2011: *Non-purpose wave*, Den Hague / CCRMA
Telematic Trio, Arias, Oliveros, Chafe, Bogota / Rice / UC San Diego
Dresser / Chafe ensembles, San Diego / CCRMA
Quartetto Telematico, Oslo / Troy NY / CCRMA

2010: *YouTube Symphony Orchestra*, tests Sydney Opera House / Miami NWS / CCRMA
Waterman / Chafe quartet, Memorial U. St. John's / Stanford
Oliveros / Chafe ensembles with M. Masaoka, Rensselaer / Stanford
Juan Parra Recital, Liege / Den Hague / Stanford
Slork Concert, NJ / Denver / Stanford

2009: *Suddenly Listen*, Dalhousie U. Halifax / CCRMA
ResoNations, Banff / UN-NYC / Belfast / Seoul / San Diego
MiTo Festival, Milan / Missoula / Stanford
SMC Conference, Porto / Rensselaer
Subtle Technologies Festival, Toronto / Banff
 CCRMA / Chile / Belfast / Rensselaer
Telejazz 3, Banff / Belfast / Rensselaer / San Diego
Telejazz 2, Banff / Toronto
Telejazz 1, Banff / Calgary
 Banff / Stanford / Rensselaer
 Banff / Stanford

2008: *Cervantino Festival*, MX / NYU / Belfast / CCRMA
Artech Conference, Casa de Musica, Porto / SARC Belfast
 University of Tromso / Stanford
 Beijing University / Stanford
 ANET Conf. Banff/ St. Lawrence St. Qt. Stanford
 Soundwire Ens. w/ RPI,
 Chafe(SU) w/ UCSD/UCB

2007: Soundwire Ens. w/ RPI, UCSD,
 Chafe(Banff) w/ RPI/UCSD (SIGGRAPH),
 Chafe(SU) w/ RPI/UCSD (SIGGRAPH),
 Chafe(KAIST, Seoul) w/ RPI/McGILL (ICAD)

2006: CCRMA w/ RPI/UCSC/Loyola(Chi.),
 CCRMA w/ Loyola(Chic.)/UCSD/UA(Fairbanks),
 CCRMA w/ UTromso,
 CCRMA w/ Banff,
 CCRMA w/ SARC/UW,
 CCRMA w/ USC (California Streamin')

2005: CCRMA w/ SARC
 CCRMA w/ Hochschule für Gestaltung und Kunst, Zürich

2004: CCRMA w/ UCSF/UCB (AES SF "300-square Mile Recording Studio" Stan-
 ford Mariachi)
 NASA Meteor Crater testing of audible QOS evaluation (Mars landing simula-
 tion)
 CCRMA w/ Banff (ANET I Network Audio Summit, piano duo)
 CCRMA w/ KTH (Point25 Concert, Wallenberg Foundation)
 CCRMA w/ UVic/UMont (CCRMA Affiliates Mtg. "Triple Jam")
 CCRMA w/ SARC

PERFORMANCES OF COMPOSITIONS AND GALLERY / MUSEUM INSTALLATIONS

(* concert appearances as performer in own works, \$ including performance of other's works, # found by ASCAP survey)

Exhibition List <https://ccrma.stanford.edu/~cc/pub/txthtml/galleries.html>

2016: *\$Stanford(x2), *UCB, U Mich, *St. Johns NFLD, *Palo Alto, Berkeley(x2),
 Stanford, *Miami, Toronto

2015: *UCB, *Tromsø, *\$Stanford(2), *\$Buenos Aires, *\$Mexico City(2), *Hat
 Creek SETI, NYC, \$Stanford, *San Francisco

2014: Stanford, *Stanford(x4), *Guanajuato, Barcelona, Grimbergen, *Saratoga, *Shang-
 hai, *SF, Chicago, Padua, Berkeley(x2), *Charlottesville

2013: *Berkeley, *Buenos Aires(x2), *\$Oaxaca, *San Francisco, \$Hong Kong, Bucharest,
 Venice Biennale

2012: *Stanford(x11), *\$Missoula(x2), *St. Johns, \$Stanford

2011: *Palo Alto, \$Geyserville, *Shanghai(x2), *Beijing(x2), Berkeley, *Stanford(x4),
 Santiago, Lincoln NE, Milwaukee, *Memorial U., St. Johns

2010: * Porto, Milan, * San Jose, * Palo Alto, * Stanford(2), * San Francisco, *\$ New
 York, *\$ Halifax, Bucharest, CCRMA

2009: *\$ Banff, Toronto, *\$ Porto, *\$ Banff (4), *\$ Missoula, * Pasadena, CA

2008: \$Porto, PT, * Guanajuato, * Queretaro, MX, *SARC Belfast, *Stanford, *Berlin, \$\$SU/UCB/UCSD, \$\$Stanford, \$\$SU/RPI

2007: Belfast, \$\$SU/RPI/UCSC/Loyola, Mtn. View, S. Francisco, *\$KAIST/McGill/RPI, Machine Project L.A. installation, Stanford, *\$SU/RPI/UCSD, *New Orleans

2006: *Riverside, *Stanford, *\$Taipei, *Madrid, *Morelia, *Guanajuato, *Queretaro, MX, Stanford x3

2005: * Veracruz, * Guanajuato, * Queretaro, MX, * Stanford, * MusiCollage, Stanford

2004: * Caracas, * Mexico City, * Queretaro, MX, Columbus, Bucharest, * \$Taiwan recital, * La Villette installation, Paris, * Network Concert, w/Stockholm

2003: \$Berkeley duo recital, Seoul, Berkeley PFA premiere, * Stanford, "Wired Gardens," * Berkeley (x2) [# Spain]

2002: * \$Eugene recital, * Berkeley, Kroeber Museum installation (Sep 02-Sep 03)UC, * Keihanna, JP., Hillsboro, OR installation, *\$ San Jose (recital) [# Argentina]

2001: SF, Montreal, Bogota, Barcelona, SJMA installation (Oct-June), SFMOMA installation (Mar-Jul)

2000: *\$ Seoul, * Eugene, Albuquerque, *\$ Stanford, *\$ Berkeley [# Germany]

1999: San Diego, * San Jose, * Lyon (2), * Banff (4) [# Germany]

1998: Banff, Buenos Aires, * Karlsruhe (2), Rome, Bogota, San Juan, PR. Half Moon Bay, Stanford [# Hong Kong, Japan, Spain, Belgium, Argentina]

1997: * Thessaloniki, *\$ San Francisco, * Stockton, \$ Stanford, *\$ San Diego (2), *\$ Buenos Aires, * L'Aquila, It. [# Argentina, Germany (2)]

1996: * Pomona, *\$ Stanford (recital), \$ Stanford, * Hong Kong [# Argentina, Holland, Canada]

1995: *\$ Ch. Music Soc. San Jose, *\$ Hong Kong, * San Juan, PR. * Baltimore, *\$ San Diego, *\$ Stanford, *\$ Macerata, It. * Thessaloniki, * Canela-RS, Br. *\$ Buenos Aires, * San Francisco [# Denmark, Hong Kong, Argentina]

1994: *\$ San Diego, *\$ Salzburg, \$ Berkeley, *\$ Stanford, *\$ Seattle, Lüneberg, De. Cleveland, *\$ Montreal, *\$ Hamilton, NY. *\$ Baltimore, * Washington, DC. *\$ Charlottesville, VA [# Israel, Norway, Austria, Switzerland]

1993: *\$ Zurich, *\$ Geneva, *\$ Vienna, *\$ Berlin, *\$ Buenos Aires, *\$ Tokyo-Kagurazaka, *\$ Tokyo-Waseda, * Radford, VA * Rochester, NY Arnheim, Brasilia [# Italy, Switzerland]

1992: Parma, It. Stanford, Urbana, IL San Francisco, Waterville, ME Baltimore, Delphi, Gr. San Juan, PR. Plymouth, NH Monterey, CA Bowdoin, ME Portland, ME Mexico City, Tokyo, Bad Ischel, As. Macerata, It. Buenos Aires

1991: Denton, TX (recital) Ft. Worth, Dallas, Stanford (3), San Francisco, Berkeley, Athens, Montreal, Warsaw, Hamilton, NY San Jose, Stuttgart, Rome, NY (TV

Tokyo, Madrid, Cologne)
 [# Netherlands, Italy, Norway, Britain]

1990: Denton, TX Wroclaw, Po. Essen, Palo Alto, Waterville, ME Stanford (3),
 Glasgow (2), Evanston, Bowling Green, OH Berkeley, Buenos Aires (2), New
 Haven
 [# Canada, Italy]

1989: College Park, MD (2) Buenos Aires, Palo Alto (2), Fort Worth, Tel Aviv, San
 Jose (2), Oberlin, Montreal
 [# Spain, Switzerland]

1988: Worcester, MA Stanford, Hamilton, NY Buenos Aires, College Park, MD
 1987: Stanford (2), Madrid, Warsaw, Macerata, It. Princeton
 1986: Houston, New York, Rome, Stanford (3), Berkeley (3), Tokyo, Buenos Aires,
 Roro, Sw. San Francisco, Venice, Belfast
 1985: Warsaw, Montreal, Vancouver, Bourges, Fr. Buenos Aires, Padua
 1984: Paris, Cologne, Bourges, Fr. Berlin, Melbourne, Evanston
 1983: Los Angeles, San Antonio, San Francisco, Paris, Stanford, Vancouver, Lüne-
 burg, De. WDR, De.
 1982: Cambridge, MA Bourges, Fr. Urbana, IL San Francisco, Stanford, Rome
 1981: Cagli, It. Stanford, Berkeley, Santa Cruz, Denton, TX
 (plus numerous performances as soloist in other's works, worldwide)
 2011 Concerto Soloist with Stanford Symphony Orchestra in premier of Rocco DiPi-
 etro's *Finale*

COMPOSITIONS (since 1981)

(ce = celletto, an electronic cello built by Chafe / Mathews in 1988)

<i>A Day in the Sun</i>	carillon and audience with mobile devices	2016	
Harbor Symphony #2	harbour symphony for ships' horns	2016	
June's Ring	carillon and computer-generated sound	2015	
<i>gnosisong (concert version)</i>	video, ce	2015	
<i>gnosisong</i>	installation with video and 15-ch audio	2015	gnosisong.org [CD C
<i>Su Brain</i>	music for video by Lia Cook	2014	http://chrischafe.net/s
<i>Polartide</i>	carillon and crowd-sourced tempo	2014	http://polartide.org/
<i>Polartide.org</i>	online and site specific installation (w/ Niemeyer et al.)	2013	
<i>Near the Inner Ear</i>	symphony, video, computer sound (w/ Moon et al.)	2013	
<i>Fanfare</i>	opening of Bing Concert Hall	2012	
<i>Inside Out</i>	17-ch computer sound	2012	
<i>Sun Shot</i>	harbour symphony for ships' horns	2012	
<i>SevenAirs.com</i>	online <i>musification</i>	2012	www.sevenairs.com
<i>Phasor</i>	cb with live DSP	2011	
<i>Tomato Quintet III</i>	live computer sound, installation	2011	
<i>Tomato Quintet II</i>	live computer sound, installation	2010	
<i>Siren Cloud</i>	pn, gt, computer sound	2010	
<i>Electrode</i>	laptop ensemble, network ensemble	2010	
<i>Blackcloud.org</i>	online <i>musification</i>	2010	[blackcloud.org]
<i>Rock, Paper, Scissors</i>	network ensemble	2009	
<i>Chopper</i>	network sax trio with computer sound	2009	
<i>The End of Winter</i>	sound installation	2009	
<i>Cefru</i>	ce with live DSP	2008	
<i>TeleCello Concerto</i>	ce and online ensembles	2008	
<i>Tomato Music</i>	8-ch computer sound	2008	
<i>Tomato Quintet</i>	live computer sound, installation	2007	
<i>Score IV</i>	radio baton, live computer sound, animated conductor	2007	
<i>Congruence</i>	48-ch computer sound	2007	
<i>Scatter</i>	sop., computer sound, animated conductor	2006	
<i>Replication</i>	pn., computer sound, animated conductor	2005	
<i>Speed & Consensus</i>	cl, pn, vn, vc, computer sound, animated conductor	2005	
<i>Ping 2</i>	interactive music, lighting installation	2004	
<i>Organum</i>	animation and music	2003	[Organum DVD]
<i>Wheel of Tunes</i>	interactive music installation	2003	
<i>Tangent</i>	clavichord and computer sound	2002	
<i>Carbon Path</i>	ce, live elec, computer sound, video	2002	[RTVE radio recording
<i>The World As We Know It</i>	film score	2002	[Underground Zero]
<i>Oxygen Flute</i>	interactive music installation	2001	[CCGNESP01-02]
<i>Ping</i>	interactive music installation	2001	[CCGNESP01-02]
<i>Voice Coil</i>	ce with live computer sound	2000	
<i>Time is the Friend</i>	music from <i>Riding the Tiger</i>	2000	[CRC2515]
<i>Transect</i>	computer sound	1999	[CRC2514]
<i>Riding the Tiger</i>	film score	1999	[Samuelson]
<i>Whirlwind II</i>	sx with computer sound	1998	
<i>Whirlwind</i>	va with live computer sound	1997	
<i>Push Pull</i>	(scored version)	1997	
<i>Between the Sheets</i>	MIDI trio (with Fred Malouf)	1997	
<i>Arcology</i>	ce, disklayjer, live computer sound (w/ Scott Walton)	1996	[CRC2515]
<i>Pulse, Friction, Blues, End</i>	ce, trumpet, mridangam, live computer sound	1996	[CRC2515]
<i>Push Pull</i>	ce (improv version) with live computer sound	1996	[CRC2514]
<i>El Zorro II</i>	sea shells version with live computer sound	1993	
<i>El Zorro</i>	tp or tb solo with live computer sound	1992	
<i>Remote Control</i>	MIDI trio	1991	[CRC2515]
<i>Free Motion</i>	cb, vc, va or vn solo with computer sound	1990	[CRC2514][Rubenste
<i>Vanishing Point</i>	computer sound	1989	[CRC2514][Intercam
<i>Hearts and Quarks</i>	film score		

RECORDINGS, SCORES (all titles ASCAP)

- [CD Centro Cultural Digital]
- [Quartteto Telematico – Triple Point #4] Pogus 21078-2
- [blackcloud.org] <http://blackcloud.org>, 2010
- [RTVE radio recording] *Carbon Path* (celletto and computer music) Chris Chafe, audio version, for RTVE, Madrid, 2006
- [Organum DVD] *Organum* (DVD music and animation) with Greg Niemeyer, Christine Liu, Lorenzo Wang, UCB Art Practice, 2003
- [CCGNESP01-02] *Extrasensory Perceptions* (music from *Ping* and *Oxygen Flute*) with Greg Niemeyer CCRMA, 2002
- [Underground Zero] *The World as We Know It* (documentary film), Kris Samuelson and John Haptas, directors, 2002
- [CRC2515] *Arcology* (featured performer / composer CD) Centaur Records, 2002
- [CRC2514] *Arco Logic* (solo composer CD) Centaur Records, 2001
- [Samuelson] *Riding the Tiger* (documentary film), Kris Samuelson and John Haptas, directors, UC Extension Ctr. for Media and Indep. Learning, 1999
- [Rubenstein] *Maya*, Donald Rubinstein (CD), Desert Link Records, 1999
- [Qwire] (performer in live electronic band, CD) 1996
- [Intercambio] (compilation CD) CCRMA / UCSD / LIPM, 1993
- [CRC2133] *The Virtuoso in the Computer Age - II* (compilation CD series) CDCM v. 11, Centaur Records, 1992
- [Rowe] *Interactive Music Systems: Machine Listening and Composing* (CDROM) ISBN0-262-68075-0, MIT Press 1992
- [CRC2091] Jefferson String Quartet (compilation CD series) CDCM v. 8, Centaur Records, 1991
- [WER2026-2] *Digital Music Digital* (compilation CD series) Computer Music Currents, v. 6 Wergo Records, 1990
- [WER2016-50] *Dinosaur Music*, (compilation CD w/ Chris Chafe, vc.) Wergo Records, 1988
- [Semar] Semar Editore, Rome, 1986
- [CCRMA v.1] *Music from CCRMA* (cassette tape), 1982

as performer (ce.): *Salzburg Variations* Dexter Morrill, Music from Stanford, 2004 (CD), *Espresso Machine II* Fernando Lopez-Lezcano, ICMC '95: Digital Playgrounds, The Banff Centre, 1995 (CD), *Transmission Two* (excerpt) Larry Austin, Anthology of Music for the 21 Century, Leonardo Music Journal, 1991 (CD)

PROFESSIONAL SERVICE (all current and past)

Promotion Reviews: **UBC, UNLV, MIT, UVA, Rhodes U., Princeton, Dartmouth, Aalborg U., Brown, USC, UCSC, UWMil, UCol, UVic, Colby, Columbia, ASU, UVA, UMI, UCB, UO, Princeton, UIowa, UCB, UT Austin, UofO, UNT, NCTU,**

Music / Media Juries, Awards and Papers Reading Committees: **SMC 2016, ICMC 2016 papers, ICMC 2016 music, ICMC 2015, NIME 2015, International Composition Competition Città di Udine, ICMC 2014, AES 44th 2011 papers chair, B&W Festival 2011, SBCM 2011, SMC 2011, Artech 2010, SMC 2009, SBCM 2009, 2007, 2005, Intl. Comp. Music Conf., Florida, 2004, , Intl. Comp. Music Conf., Am. Psych. Assoc. Distinguished Scientist Award, Goteborg, Arts Fellowship C. of S. Clara, 2002, Intl. Comp. Music Conf., Havana, 2001, Intl. Comp. Music Conf., Berlin, 2000, Intl. Comp. Music Conf., Beijing, 1999, Intl. Comp. Music Conf., Ann Arbor, 1998, Intl. Comp. Music Conf., Hong Kong, 1996, Intl. Comp. Music Conf., Aarhus, 1994, Intl. Comp. Music Conf., Tokyo, 1993, Intl. Comp. Music Conf., San Jose, 1992, Peabody Cons., 1997-99**

External Dissertation Review: Rhodes U., UCalgary, MIT, U. Luebeck, U. Pompeu Fabra, NUSingapore, McGill, Hebrew U.

Grant Evaluator: **Swiss NSF, IRCAM, NSF, NSERC, SSHRC, Fonds Quebecois de la Recherche, Hong Kong Research Grants Council**

Advisory Groups: NSF CISE, Internet2 Arts, CIRMMT McGill U. School of Music, Conseil Scientifique, IRCAM, Dept. of Music, Princeton U., Catgut Acoustical Society, J. of New Music Research, Swets & Zeitlinger B.V.

Program Evaluator: NYU, UCSC, UVA, Dartmouth

Publication Reviewer: **Oxford U Press, Cambridge Press, UC Press, rev. and Preface to *Bhakti*, J. Palmer, MIT Press; UC Press; Leonardo; C. Inv. Musicale; J. of New Music Research, Organised Sound, IEEE Computer Soc., Computer Magazine, Acoustical Soc. of Am., Computer Music J.**

UNIVERSITY SERVICE

Music Dept. Search, 2015-16

Memorial Resolution, Music Dept. 2015

Promotion Reviews, 2013-16

Music Dept. Bing Concert Hall Programming Committee, 2012-16

TripleCCRMALite Festival 40,50,80 2015

Stanford Pre-Collegiate Studies Advisory Committee, 2012-15

Stanford Cross-Disciplinary Honors in Arts, 2012-15

Music Dept. Graduate Studies Committee, 2012-13

Faculty Senate, 2011-12

Chair Promotion Review (G.W.), 2011-12

Promotion Review (J.K.), 2011-12

Music Dept. Bing Hall Program Committee, 2011-12
 Music Dept. Search, 2010-11
 Music Dept. Graduate Studies Committee, 2010-11
 Chair Music Dept. Graduate Studies Committee, 2009-10
 Promotion Review, 2009-10
 Performing Arts Center Committee
 Chair Promotion Review (J.B.), 2008
 Music Dept. Search, 2008
 CUAFA, 2008
 SICA sub-committees, Perf. Arts Ctr., Grad Studies, Exploratorium
 Chair CCRMA Search, 2007
 Sculpture Search (Art Dept.), 2007
 CUAFA, 2006
 Sculpture Search (Art Dept.), 2006
 Chair Promotion Review (J.S., G.B.), 2005
 Chair Music Dept. Search, 2005
 H&S Arts Initiative Planning Committee, 2005
 Memorial Resolution, Music Dept.
 Area Studies Search (Africanist Hum.), 2004
 CogSciConf planning, Hum. Ctr., 2004
 Drama Dept. Search Com., 2003
 Music Dept. Kitchen Cab., 2003
 Graduate Curr. Com., 2002
 Chair, Contg. Appt. Review Com. (K.L.), 2001
 Memorial Service, Concert, Music Dept.
 OTL Awards Reviewer, 2001
 Chair, Tenure Review Com. (J.B.), 2000
 Memorial Resolution, Music Dept.
 Chair, Composition Search Com., 1999
 Undergraduate Curr. Com., 1999-01
 Dept. Mgr. Search Com., 1999
 Advisor to EPGY Music Theory Course (CSLI) 1999-present
 Sondius-XG Advisory Com., 1998-present
 Arts Service Action Program (Haas Center), 1997-98
 Stanford Faculty Summer Service Learning Institute, 1997
 Chair, Composition Search Com., 1997
 Chair, Departmental Reappointment Com. (D.S.), 1997
 OTL Awards Selection Com., 1997
 Chair, Tenure Review Com. (J.R.), 1996
 Search Com. for Computer Music, 1996
 Chair, String Quartet Advisory Bd., 1995-97
 KZSU Bd. of Directors, 1994-98
 PI, Cooperative Composers-in-Residence Prog. with LIPM, Buenos Aires, The Rockefeller Foundation, 1990-95
 Academic Software Development Advisory Bd., 1993-94
 Director, CCRMA Summer Workshop Program, 1989-94

Chair, Music Department Graduate Studies Com., 1993
Music Department Graduate Studies Com., 1992
Chair, Music Department Facilities and Equipment Com., 1991
Music Department Facilities and Equipment Com., 1990
Arts Faculty Roundtable, 1992-94
Assisted Centennial and Presidential Inaugural events, 1990-93
Chair, University Orals Coms., CS, Mathematics and Psychology Depts.

ADVISING

Graduate Student Advisor, MA, PhD and DMA Programs in Music
Undergraduate Advisor in Music (incl. Music, Science and Technology Degree)
Undergraduate Advisor in Symbolic Systems Program
Freshman Academic Advisor, 1987-1988

COURSES TAUGHT

Online Jamming and Concert Technology

Music and Acoustics of Ancient and Contemporary Greece (Bing Overseas Studies Program)

Sound, Digital Sound and Massive Sound Media (Sophomore College)

Human Computer Interface Design

Topics in Interactive Computer Music Performance (Sophomore Seminar)

Graduate Student Colloquium (weekly, non-credit)

Composition and Performance Using MIDI-based Computer Music Instruments

History of Electroacoustic Music

Fundamentals of Computer-Generated Sound

Compositional Algorithms, Psychoacoustics and Spatial Processing

Computers in the Arts and Humanities

Research Seminar in Computer Music