<div align="center">**Curriculum Vitae**
Perry Raymond Cook
September, 2002</div>

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EDUCATION

PhD, Electrical Engineering, Stanford University, January 1991.
MS, Electrical Engineering, Stanford University, August 1987.
BS, Electrical Engineering, University of Missouri, Kansas City, May 1986. Magna Cum Laude.
BA, Music, University of Missouri, Kansas City Conservatory of Music. Major in voice, Secondary emphasis in recording and electronic music, May 1985.

RESEARCH INTERESTS

Physically-based sound synthesis models, with emphasis on modeling random and real-world sound sources. Singing voice synthesis and control. Speech and audio compression. Real time audio analysis and feature extraction. Real-time devices for computer musical instrument control and human-computer interaction. Audio synthesis applications, auditory display, and sound for immersive environments.

WORK EXPERIENCE

Feb. 1996 - Present: Associate (as of 6-01) Professor, Princeton University Dept. of Computer Science, with joint (affiliated) appointment in Princeton Music Department. Director, Princeton Computer Science Industrial Affiliate's Program.

Sept. 1995 - Dec. 1995: Acting Director, Stanford Center for Computer Research in Music and Acoustics (CCRMA). Teaching, student supervision, research, and oversight of daily operations, building management, safety, new construction, including new recording studio and integration of new computer musicology center. Also, all duties of Technical Director as described below.

Sept. 1994 - Sept. 1995: Senior Research Associate and Technical Director, Stanford CCRMA. Research, Teaching, Academic Advising, Facilities Planning, and Supervision of technical staff consisting of audio engineer, computer system administrator, and office staff. Coordinated Industrial Affiliates (Corporate Gift and Sponsorship) Program.

Feb. 1993 - July 1994: Senior Research Scientist, Media Vision Inc. Research and design of systems for sound synthesis. Hardware architecture, software architecture, and chip simulation software for synthesis, compression, and audio processing chip designs.

March 1991 - Feb. 1993: Consultant, Media Vision Inc. Hardware and software for music and speech synthesis.

Jan. 1991 - Sept. 1994: Research Associate, Stanford CCRMA. Research in modeling of human vocal tract, psychoacoustics, and digital signal processing. Software and hardware support for CCRMA research and teaching. Instructor of courses as listed in the Teaching Experience section below.

Jan. 1987 - Dec. 1990: Research Assistant, CCRMA. 1988 - 1991: Thesis research in singing voice synthesis. 1987-88: Research in physical simulation of single reed instruments with arbitrary shaped bores using digital waveguide techniques. 1987: Research in digital signal processing for removal of reverberation from pre-recorded musical signals, carried out at CCRMA under the supervision of professor Bernard Widrow of the Stanford Electrical Engineering Faculty. TA and teaching duties, including CCRMA summer session short courses (see Teaching Experience below).

Consulting Contracts, 1991-Present, Sound and Music Software, Design Review, Patent Analysis, etc.: Chromatic Research (formerly Xenon), Interval Research, NeXT Inc., Aureal Semiconductor (formerly Media Vision), Emotioneering (formerly Mood Logic), Pellicano Detective Agency.

PUBLICATIONS

Journal Papers

P. Cook, "Numerical Solution of Boundary Value Problems in Musical Acoustics," Winner, 1986 IEEE Student Paper Region 5 Competition, Published in IEEE 1986 Student Papers, pp. 100-108, 1987.

P. Cook, "SPASM: a Real-Time Vocal Tract Physical Model Editor/Controller and Singer: the Companion Software Synthesis System," Computer Music Journal, 17: 1, pp 30-44, 1992.

D. Levitin and P. Cook, "Memory for Musical Tempo: Additional Evidence that Musical Memory is Absolute," Perception and Psychophysics, 58 (6), 1996.

P. Cook, "Singing Voice Synthesis History, Current Work, and Future Directions," Computer Music Journal, 20:2 1996.

P. Cook, "Physically Informed Sonic Modeling (PhISM): Synthesis of Percussive Sounds," Computer Music Journal, 21:3, 1997.

P. Cook, and D. Trueman, "Spherical Radiation from Stringed Instruments: Measured, Modeled, and Reproduced," Journal of the Catgut Acoustical Society, November 1999.

S. Lakatos, P. Cook, and G. Scavone, "Selective Attention to the Parameters of a Physically Informed Sonic Model," Acoustics Research Letters Online, Journal of the Acoustical Society of America, May 2000.

G. Essl and P. Cook, "Measurements and Simulation of Bowed Bars," Journal of the Acoustical Society of America, July 2000.

K. Li, H. Chen, Y. Chen, D. Clark, P. Cook, S. Damianakis, G. Essl, A. Finkelstein, T. Funkhouser, T. Housel, A. Klein, Z. Liu, E. Praun, R. Samanta, B. Shedd, J. Singh, G. Tzanetakis, J. Zheng, "Early Experiences and Challenges in Building and Using a Scalable Display Wall System," IEEE Computer Graphics and Applications, special issue "Off the Desktop: Large-Format Displays" July, 2000.

D. Trueman and P. Cook, "BoSSA: The Deconstructed Violin Reconstructed," International Computer Music Conference, Beijing, October, 1999. Winner of Swets and Zeitlinger Distinguished Paper Award, revised for Journal of New Music Research, Fall, 2000.

G. Tzanetakis and P. Cook "MARSYAS: a framework for audio analysis," Organized Sound 4(3), Cambridge University Press, 2000.

G. Tzanetakis and P. Cook, Musical Genre Classification of Audio Signals," IEEE Tranactions on Speech and Audio, July 2002.

P. Cook, guest Editor, IEEE Computer Graphics and Applications, Special Issue: *Virtual Worlds, Real Sounds*, July/August 2002.

P. Cook, "Tutorial: Sound Production and Modeling," IEEE Computer Graphics and Applications, Special Issue: *Virtual Worlds, Real Sounds*, July 2002.

Refereed Conference Papers

D. Trueman and P. Cook, "BoSSA: The Deconstructed Violin Reconstructed," International Computer Music Conference, Beijing, October, 1999. Winner, Swets and Zeitlinger Distinguished Paper Award.

J. O'Brien, P. Cook, and G. Essl, "Synthesizing Sounds from Physically Based Motion." *The proceedings of ACM SIGGRAPH 2001*, Los Angeles, California, pp. 529-536.

Juried Animations and Research Videos

P. Cook, "Voice Synthesis Projects," International Computer Music Association Research Video, Volume II, No. 1, 1995.

P. Cook and D. Morrill, "The Cook-Morrill Trumpet," International Computer Music Association Research Video, Volume II, No. 1, 1995.

R. Bargar, I. Choi, A. Betts, P. Cook, "Music for Unprepared Piano," Electronic Theater, SIGGRAPH 1998.

J. O'Brien, P. Cook and G. Essl, "Synthesizing Sounds from Physically Based Motion," SIGGRAPH Animation Theater, 2001.

Books and Book Chapters

P. Cook, "Identification of Control Parameters in an Articulatory Vocal Tract Model, With Applications to the Synthesis of Singing," Electrical Engineering PhD Dissertation, Stanford University, 1991.

P. Cook, ed. Music, Cognition and Computerized Sound: An Introduction to Psychoacoustics, Cambridge, MA, MIT Press, March 1999.

P. Cook, "Multimedia Audio," Wiley Encyclopedia of Electrical and Electronics Engineering, 1999.

G. Tzanetakis and P. Cook, *Audio Information Retrieval using MARSYAS,* in Current Research in Music Information Retrieval: Searching Audio, Midi and Notation, Donald Byrd,} J. Stephen Downie and Tim Crawford, eds., Kluwer Academic Publishers (In Press).

P. Cook, "Real Sound Synthesis for Interactive Applications," A.K. Peters Press, 2002.

Collections and Proceedings

P. Cook, co-Editor, Proceedings of the International Computer Music Conference, 1998.

P. Cook, "Introduction to Audio Compression and Representation," SIGGRAPH 98 Course Notes #27.

P. Cook, Editor, Proceedings of the International Conference on Auditory Display, Atlanta, Apr. 2000.

P. Cook, Editor, P. Cook, T. Funkhouser, R. Bargar, N. Miner "Virtual Worlds, Real Sounds," SIGGRAPH 99 Course Notes #23.

P. Cook, "Physically-Based Parametric Sound Synthesis and Control," SIGGRAPH 2000 Course Notes #2.

Technical Reports

P. Cook, "Reverberation Cancellation in Musical Signals Using Adaptive Filters," Music Dept. Tech. Rep. STAN-M-50, Stanford University, 1988.

P. Cook, "Implementation of Single Reed Instruments With Arbitrary Bore Shapes Using Digital Waveguide Filters," Music Dept. Tech. Rep. STAN-M-51, Stanford University, 1988.

ICAD-NSF Report Committee, G. Kramer (Ed.) (1999). The Sonification Report: Status of the Field and Research Agenda. Report prepared for the National Science Foundation by members of the International Community for Auditory Display: G. Kramer (Ed.), Authors: B. Walker, T. Bonebright, P. Cook, J. Flowers, N. Miner, J. Neuhoff, R. Bargar, S. Barrass, J. Berger, G. Evreinov, W. Fitch, M. Gröhn, S. Handel, H. Kaper, H. Levkowitz, S. Lodha, B. Shinn-Cunningham, M. Simoni, S. Tipei.

Conference Papers and Presentations

D. Morrill and P. Cook, "Hardware, Software, and Compositional Tools for a Real-Time Improvised Solo Trumpet Work," International Computer Music Conference, Columbus, OH, 1989.

P. Cook, "Synthesis of the Singing Voice Using a Physically Parameterized Model of the Human Vocal Tract," International Computer Music Conference, pp. 69-72, Columbus, OH, 1989.

P. Cook, "SPASM: a Real-Time Vocal Tract Physical Model Editor/Controller and Singer: the Companion Software Synthesis System," Colloque les Modeles Physiques Dans L'Analyse, la Production et la Creation Sonore, ACROE, Grenoble, 1990.

P. Cook, C. D. Chafe and J. O. Smith, "Pulsed Noise in Musical Systems, Techniques for Extraction, Analysis and Visualization," International Computer Music Conference, Glasgow, 1990.

P. Cook, "Noise and Aperiodicity in the Glottal Source: A Study of Singer Voices," (Invited) Twelfth International Congress of Phonetic Sciences, Aix-en-Provence, France, August, 1991.

P. Cook, "Non-Linear Periodic Prediction for On-Line Identification of Oscillator Characteristics in Woodwind Instruments," International Computer Music Conference, Montreal, October, 1991.

P. Cook, "TBone: An Interactive WaveGuide Brass Instrument Synthesis Workbench for the NeXT Machine," International Computer Music Conference, Montreal, October, 1991.

P. Cook, "LECTOR: An Ecclesiastical Latin Control Language for the SPASM/singer Instrument," International Computer Music Conference, Montreal, October, 1991.

S. Hirschman, P. Cook, and J. Smith. "Digital Waveguide Modeling and Simulation of Reed Woodwind Instruments: An Interactive Development Environment on the NeXT Computer," International Computer Music Conference, Montreal, October, 1991.

P. Cook, "Aperiodicities in the Singer Voice Source," (Invited) Acoustical Society of America Conference, Salt Lake City, May, 1992.

P. Cook, "Physical Models for Music Synthesis, and a Meta-Controller for Real-Time Performance," International Computer Music Conference and Festival at Delphi, Greece, 1992.

P. Cook, "A Meta-Wind-Instrument Physical Model, and a Meta-Controller for Real Time Performance Control," International Computer Music Conference, San Jose, Oct., 1992.

J. Smith and P. Cook, "The Second-Order Digital Waveguide Oscillator," International Computer Music Conference, San Jose, Oct., 1992.

P. Cook, D. Morrill, and J. O. Smith, "An Automatic Pitch Detection and MIDI Control System for Brass Instruments," Acoustical Society of America Conference, New Orleans, Nov., 1992.

P. Cook, "Physical Models, Control Schemes, and Real-Time Controllers for Music Synthesis," (Invited) IRCAM Symposium on Computer Music, Paris, France, March, 1993.

P. Cook, "New Control Strategies for the Singer Articulatory Voice Synthesis System," Stockholm Music Acoustics Conference, Stockholm, Sweden, July, 1993.

P. Cook, D. Kamarotos, T. Diamantopoulos, and G. Philippis, "IGDIS: A Modern Greek Text to Speech/ Singing Program for the SPASM/Singer Instrument," International Computer Music Conference, Tokyo, Sept., 1993.

P. Cook, D. Morrill, and J. O. Smith, "A MIDI Control and Performance System for Brass Instruments," International Computer Music Conference, Tokyo, Sept., 1993.

G. Scavone and P. Cook, "Combined Linear and Non-Linear Periodic Prediction in Calibrating Models of Musical Instruments to Recordings," International Computer Music Conference, Aarhus, DK, Sept. 1994.

P. Cook, "Speech and Singing Synthesis Using Physical Models, Some History and Future Directions," Symposium on Physical Models and Applications in Psychoacoustics, Thessaloniki, Greece, July, 1995.

P. Cook, "An Investigation of Singer Pitch Deviation as a Function of Pitch and Dynamics," Thirteenth International Congress of Phonetic Sciences, Stockholm, Sweden, August, 1995.

D. Levitin and P. Cook, "Absolute Memory for Musical Tempo," (Invited) Audio Engineering Society Convention, New York, 1995.

P. Cook, "Greek Aulos Project Status Report: Acoustics of Double Reed Cylindrical Bore Instruments," Symposium on Physical Models and Applications in Psychoacoustics, Thessaloniki, Greece, July, 1995.

P. Cook, "Integration of Physical Modeling for Synthesis and Animation," International Computer Music Conference, Banff, 1995.

P. Cook, "A Hierarchical System for Controlling Synthesis by Physical Modeling," International Computer Music Conference, Banff, 1995.

P. Cook, "Hearing, Feeling, and Performing: Masking Studies with Trombone Players," International Conference on Music Perception and Cognition, Montreal, 1996.

P. Cook, "Physically Informed Sonic Modeling (PhISM): Percussive Synthesis," International Computer Music Conference, Hong Kong, Sept. 1996.

P. Cook, "Non-Linear Recursion in Acoustics and Music," Invited Keynote, International Mathematica Symposium, Rovaniemi, Finland, July, 1997.

P. Cook, "Using Musical Acoustics to Teach Digital Signal Processing, Scientific Computing, and Human-Computer Interface Technology," (Invited for Special Session on the Role of Musical Acoustics in Teaching Acoustics, Mathematics, and Engineering) Acoustical Society of America, Penn. State, 1997.

K. Tsahalinas, K. Tzedaki, S. Psaroudakes, D. Kamaratos, P. Cook, and T. Rikakis, "Physical Modeling Simulation of the Ancient Greek Elgin Auloi," Intl. Computer Music Conference, Thessaloniki, 1997.

J. Weinstein and P. Cook, "FAUST: A Framework for Algorithm Understanding and Sonification Testing," International Conference on Auditory Display, Palo Alto, 1997.

P. Cook and D. Trueman, "A Database of Measured Musical Instrument Body Radiation Impulse Responses, and Computer Applications for Exploring and Utilizing the Measured Filter Functions," International Symposium on Musical Acoustics, Acoustical Society of America, Woodbury, NY, 1998.

G. Scavone and P. Cook, "Real-time Computer Modeling of Woodwind Instruments," International Symposium on Musical Acoustics, Acoustical Society of America, Woodbury, NY, 1998.

P. Cook and D. Trueman, "NBody: Interactive Multidirectional Musical Instrument Body Radiation Simulations, and a Database of Measured Impulse Responses," International Computer Music Conference, Ann Arbor, 1998.

P. Cook, "Toward the Perfect Audio Morph," (Invited) First European COST Conference on Digital Audio Effects, Barcelona, 1998.

P. Cook, G. Essl, G. Tzanetakis, and D. Trueman "N>>2: Multi-Speaker Display Systems for Virtual Reality and Spatial Audio Projection," International Conference on Auditory Display, Glasgow, 1998.

G. Tzanetakis and P. Cook, "A Framework for Audio Analysis based on Classification and Temporal Segmentation," EuroMicro, Milan, September 1999.

G. Essl and P. Cook, "Banded Waveguides: Towards Physical Modeling of Bowed Bar Percussion Instruments," International Computer Music Conference, Beijing, October, 1999.

P. Cook and G. Scavone, "The Synthesis ToolKit (STK)," International Computer Music Conference, Beijing, October, 1999.

P. Cook, "Toward Physically-Informed Parametric Synthesis of Sound Effects," Invited Keynote Address, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, October, 1999.

G. Tzanetakis and P. Cook, "Multi-Feature Audio Segmentation for Browsing and Annotation," IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, October, 1999.

G. Tzanetakis and P. Cook "Experiments in Computer-Assisted Annotation of Audio," International Conference on Auditory Display, Atlanta, Apr. 2000.

L. Dubois, C. Ghez, T. Rikakis, P. Cook, "An Auditory Display System for Aiding Interjoint Coordination," International Conference on Auditory Display, Atlanta, Apr. 2000.

D. Trueman, C. Bahn, P. Cook, "Alternative Voices for Electronic Sound: Spherical Speakers and Sensor-Speaker Arrays (SenSAs)," International Computer Music Conference, Berlin, Aug. 2000

P. Cook and C. Leider, "SqueezeVox: A New Controller for Vocal Synthesis Models," International Computer Music Conference, Berlin, Aug. 2000.

P. Cook and C. Leider, "Making the Computer Sing: The SqueezeVox," Proceedings of the XIII Colloquim on Musical Informatics, L'Aquila, Italy, Sept. 2000.

G. Tzanetakis and P. Cook, "Sound Analysis using MPEG compressed Audio," IEEE International Conference on Acoustics, Speech and Signal Processing, Istanbul 2000.

G.Tzanetakis and P.Cook, "Audio Information Retrieval (AIR) Tools." Proc. Int. Symposium on Music Information Retrieval (ISMIR), Plymouth, MS, 2000.

G.Tzanetakis and P.Cook, "3D Graphics Tools for Isolated Sound Collections," Proc. Int. Conf. on Digital Audio Effects (DAFX), Verona, Dec., 2000.

G.Tzanetakis and P.Cook, "MARSYAS3D: A prototype audio browser-editor using a large scale immersive visual and audio display," Proc. Int. Conf. Auditory Display (ICAD), Helsinki, 2001.

P. Cook, "Principles for Designing Computer Music Controllers," ACM CHI Workshop in New Interfaces for Musical Expression (NIME), Seattle, April, 2001.

P. Cook, R.Dannenberg, J.Foote, G.Tzanetakis and C.Weare, "New Directions in Music Information Retrieval" Proc. Int. Computer Music Conf. (ICMC), Havana, Sept., 2001.

P. Cook, C. Leider, T. Park, and G. Tzanetakis, "Princeton Sound Kitchen Open Source Software Report," Proc. of the International Computer Music Conference, Havana, Cuba, Sept. 2001.

G.Tzanetakis, G. Essl, and P. Cook , "Audio Analysis using the Discrete Wavelet Transform, Proc. WSES Int. Conf. Acoustics-Music: Theory and Applications (AMTA), Skiathos, 2001.

G.Tzanetakis and P.Cook, "Automatic Musical Genre Classification of Audio Signals," Proc. Int. Symposium on Music Information Retrieval, Bloomington, Aug., 2001.

Lakatos, S., Scavone, G.P., & Cook, P.R., "Obtaining perceptual spaces for large numbers of complex sounds: Sensory, cognitive, and decisional constraints." In C. Bonnet (Ed.), Proceedings of the Sixteenth Annual Meeting of the International Psychophysics Society, 245-250, 2000.

Scavone, G.P., Lakatos, S., & Cook, P.R. "Knowledge acquisition by listeners in a source learning task using physical models," Invited paper presented at the 139th meeting of the Acoustical Society of America, Atlanta, GA., June, 2000.

Lakatos, S., Scavone, G.P., & Cook, P.R., "An interactive similarity rating program for large timbre sets." Poster presented at the 141st meeting of the Acoustical Society of America, Chicago, IL., June 2001.

P. Cook, "Physically Informed Stochastic Modal Sound Synthesis," Invited paper presentation at the 141st meeting of the Acoustical Society of America, Chicago, IL., June 2001.

P. Cook, "Life with Computer Voxens," Invited presentation at Banff Human/Computer Vox. Summit, June 2001.

G. Scavone, S. Lakatos, S., P. Cook, & C. Harbke, "Perceptual spaces for sound effects obtained with an interactive similarity rating program," Intl. Symposium on Musical Acoustics, Perugia, Italy., Sept., 2001.

P. Cook, "Modeling Bill's Gait: Analysis and Parametric Synthesis of Walking Sounds," Proc. Audio Engineering Society 22 Conference on Virtual, Synthetic and Entertainment Audio, Helsinki, Finland, June 2002.

E. Brazil, M. Fernstrom, G. Tzanetakis, and P. Cook, "Enhancing Sonic Browsing using Audio Information Retrieval," Proc. Int. Conf. On Auditory Display, Kyoto Japan, July, 2002.

A. Kapur, G. Essl, P. Davidson, and P. Cook, "The Electronic Tabla Controller," Proceedings of the Conference on New Interfaces for Musical Expression, (NIME), Dublin, Ireland, May 2002.

G. Essl and P. Cook, "Banded Waveguides on Circular Topologies and of Beating Modes: Tibetan Singing Bowls and Glass Harmonicas," Proc. International Computer Music Conference, Gothenborg, Sweden, Sept. 2002.

G. Tzanetakis, A. Ermolinskyi and P. Cook, "Beyond the Query-by-Example Paradigm: New Query Interfaces for Music Information Retreival," Proc. International Computer Music Conference, Gothenborg, Sweden, Sept. 2002.

G. Tzanetakis, P. Cook and G. Essl, "Human Perception and Computer Extraction of Beat Strength," Proc. Conference on Digital Audio Effects (DAFX), Hamburg, Germany, Sept. 2002.

GRANTS RECEIVED

New Jersey Commission on Science and Technology, "Technology Center: Pervasive Information Systems," with Wayne Wolf, Bede Liu, and Vince Poor, others at Rutgers and NJIT, approx. $1.5M over 5 years.

National Science Foundation CAREER Grant, "Parametric Synthesis and Control of Sound for the Computer-Mediated Experience," $256,650 over 4 years, April 2000.

Princeton SEAS Dean's Grant for Graduate Course Development, "Pervasive Computing", with Wayne Wolf, Vince Poor, and Bede Liu, 1999.

Intel Technology for Education 2000 Grant. Approx. $100,000 over 3 years of a University-Wide $2.7 Million over 3 years, Intel computers and software, 1997-2000.

Hewlett Packard Philanthropy Program for Educational Institutions $123,000 Equipment, PCs and Printers for CS Labs, 1997.

Princeton 250th Program for Innovation in Teaching, Human Computer Interface Technology course development, $27,350 for Equipment and Summer Support, 1997.

AT&T Lucent Special Purpose Grants Program in Science and Engineering, $19,500 + Princeton Gordon Wu Fund Matching, for Human-Computer Interface Course Videoconference Equipment, 1996.

PATENTS AND PATENTS PENDING

"Music Synthesis Controller and Method," Assigned to Interval Research, Apr. 2000.

"System and Method for Real Time Sinusoidal Signal Generation Using Waveguide Resonance Oscillators," with Julius O. Smith, Assigned to Stanford University, Dec. 1997.

"Economical Generation of Exponential and Pseudo-Exponential Decay Functions in Digital Hardware," Perry Cook and Bryan Colvin, Assigned to Media Vision, Sep. 1996.

"Residual Excited Waveguide," Bryan Colvin and Perry Cook, Assigned to Media Vision, Aug. 1996.

"Digital Waveguide Speech Synthesis System and Method," Perry R. Cook, June 1996.

"Sound Synthesis Model Incorporating Sympathetic Vibrations of Strings," with Bryan J. Colvin, Assigned to Media Vision, Nov. 1995.

"Accurate Pitch Tracking System and Method," with Julius O. Smith, Assigned to Stanford Univ., Oct. 1994.

"A Programmable Hearing Aid Calibrator," with Leo Boyd, Issued Dec. 1993.

Other applications assigned to Media Vision Technology (AuReal Semiconductor), and Interval Research.

POSITIONS, AFFILIATIONS, CERTIFICATIONS, HONORS & AWARDS

Board Memberships:
  International Community for Auditory Display
  International Computer Music Association (Vice President for Membership 2000-present).
Program/Papers Chair:
  IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, Mohonk, NY, 2001.
  Internal Conference on Auditory Display, Atlanta Georgia, April 2000.
  International Computer Music Conference, Thessaloniki, Greece, September, 1997.
Professional Society Memberships:

Association of Computing Machinery, Acoustical Society of America, Computer Music Association, Institute for Electrical and Electronics Engineers, Tau Beta Pi, Phi Kappa Phi, Eta Kappa Nu, Missouri Engineer in Training Certification earned Aug. 1986

Awards:

Princeton Engineering Council Distinguished Teaching Award, Dec. 2001.

Swets and Zeitlinger Distinguished Paper Award, ICMC, 1999.

UMKC Alumni Achievement Award, Engineering, 1992.

Friends of UMKC Harry S. Truman Campus Outstanding Student Award, 1986

UMKC Chancellor's Honor Student, 1986   UMKC Dean's list, 1973, 1984-1986

IEEE Student Paper Competition 1st Place, 1985-86

Roland Synthesizer/Tape Competition: 2nd place Professional Class 1985
                                        1st place Professional Class 1984
                                        2nd place Amateur Class 1982

TEACHING EXPERIENCE

Graduate Students Completed

Gary Scavone, Stanford PhD Computer Music, "Digital Models of Reed and Jet Woodwind Instruments," March 1997.

John Puterbaugh, Princeton PhD Composition (Music), "Timbre and Sonopoesis," Dec. 1998

Jon Forsyth, Princeton Masters of Computer Science, May 1999.

Dan Trueman, Princeton PhD Composition (Music), "Reinventing the Violin," Dec. 1999.

Eric Scheirer, PhD, MIT Media Lab, (Outside Reader) "Structured Audio and Machine Listening", Apr. 2000.

Tony Verma, PhD Stanford EE (Outside Reader), "Spectral Modeling with Sines, Noise, and Transients", Apr. 1999.

Stefan Bilbao, Stanford CCRMA (Outside Reader), October 2000.

Mary Wright, PhD Princeton Music Composition (non-reader composition advisor), "Project Arbol I: Deer B. Gone" 46.2 Speaker Installation, November 2001, Thesis completed May 2002.

George Tzanetakis, PhD Princeton Computer Science, "Manipulation, Analysis and Retrieval Systems for Audio Signals," May 2002.

Eli Brandt, PhD Carnegie Mellon University Computer Science (Outside Reader), May 2002.

Georg Essl, PhD Princeton Computer Science, "Physical Wave Propagation Modeling for Real-Time Synthesis of Natural Sounds," July 2002.

Graduate Students in Process

John Hainsworth, Princeton PhD Computer Science, 5th year, expected completion 2002-3.

Ge Wang, Princeton PhD Computer Science, 2nd year.

YoungMoo Kim, MIT Media Lab, (Outside Reader), 3rd year

Instructor, Princeton Courses

Fall 1996 – 2002: COS 436 Human Computer Interface Technology

Spring 2002, COS 111, Computers in our World

Spring 2000-2: COS 598U/ELE 580U, Graduate ELE/COS Seminar: Pervasive Information Systems

Fall 2001, Freshman Seminar 157, Techno Music I: 100,000 BC to 1999.

Spring 2001, COS/Music 325, Transforming Reality by Computer.

Spring 2000: Music 539, Graduate Music Seminar: Interactive Arts Technologies

Spring 1998, Music 539, Graduate Music Seminar: Acoustics, PsychoAcoustics, and Compositional Resources.

Spring 1997 - Spring 1999 COS217, Introduction to Programming Systems: ANSI C, SPARC Assembler, UNIX.

Spring 1996 Co-Instructor with Ken Steiglitz, COS 496 Topics: Simulation of Systems, Real and Imagined

SIGGRAPH Courses

Organizer, Instructor, "Physically Based Parametric Sound Synthesis and Control," SIGGRAPH 2000
Organizer, Instructor, "Virtual Worlds/Real Sounds," SIGGRAPH 1999
Organizer, Instructor, "Introduction Audio Compression and Representation," SIGGRAPH 1998
Panel Member, "Listen Up! Real-Time Auditory Interfaces for the Real World," SIGGRAPH 1998.
Organizer, Instructor, "Creating and Manipulating Sound to Enhance Computer Graphics," SIGGRAPH 1996.
Instructor, "Introduction to Image, Video, and Audio Compression," SIGGRAPH 1994.

Instructor, Stanford Courses

1991-95	Co-Instructor: Music 151/Psychology 261 Cognitive Psychology for Musicians
1991-94	Instructor: Music 242, Topics in Computer Analysis and Synthesis of the Human Voice, with Emphasis on Singing
1994-5	Seminar on Computational Models of Human Hearing and Audition
1994	Instructor: Music 420/EE 265, Applications of the Fourier Transform

Co-Instructor, Stanford CCRMA Summer Courses

1994-7, 99-02	DSP, Physical Modeling, and Spectral Modeling
1993	DSP and Physical Modeling
1989-92	Music Programming on NeXT Computers
1988	Computer Music on Small Systems and MIDI
1987	Computer Music Programming in MIDI Lisp

Teaching Assistant, Tutor, Grader

1990	Physical Modeling and Signal Processing: TA, Stanford CCRMA
1990	Cognitive Psychology for Musicians: TA, Stanford CCRMA
1989	Fourier Transform and Applications: TA, Stanford CCRMA
1987	Computer System Architecture: Grader, Stanford Electrical Engineering
1986	Physics: Freshman level TA, UMKC
1985	Electromagnetic Fields and Waves: Tutor, UMKC
1983-86	Calculus: Tutor, Both basic freshman and freshman engineering levels, Penn Valley CC

OTHER WORK EXPERIENCE

Summer 1985: Audio Consultant, Worlds of Fun/Oceans of Fun theme parks, Kansas City, Missouri. Sound system design and installation in 500acre theme park complex including 15 theaters. Supervised setups and operation of sound systems for over 90 live performances at outdoor amphitheater.
1978-1983: Sound Technician, Worlds/Oceans of Fun theme parks, Kansas City, Missouri.
1978: Electronics Technician, 3M Electronic Business Equipment, Kansas City, Missouri.
1977-1978: Stage Manager, Forum Amphitheater, Worlds of Fun, Kansas City, Missouri.
1975-1977: Student Assistant Engineer, UMKC Conservatory Recording and Electronic Music Studios.

SELECTED MUSICAL EXPERIENCE, RECORDINGS, AND PERFORMANCES

Independent recording/production studio and concert sound engineer since 1974.
Section leader and soloist with California Bach Society, 1990 - 1995.
Section leader and soloist with Trinity Cathedral San Jose, 1991 - 1993.
Performed with numerous San Francisco bay area groups.
Engineered, edited, and sang on Compact Disk, "Ockeghem, the Three Voice Masses," with Schola Discantus, released on Lyrichord Early Music Series (LEMS) 8010, 1994.
Engineered and Edited on CD, "French 14th Century Sacred Music," 10/94, LEMS 8012.
Soloist/chorister on CD "Musica Barocca," with California Bach Society, released 9/94, Guidonian Records.
Singer and Editor, CD "A Stanford Christmas," released 10/94.

Engineered and Edited CD, "LaRue Mass and Lamentations" released 6/96, LEMS 8021.
Singer and Editor, CD, "Echoes of Joan of Arc, Music of Reginaldus Liebert," released 10/96, LEMS 8025.
Singer, Trinity Parish Choir of Men and Boys/Girls, Princeton, 1999, Sang on CD recording project, "so longeth
    my soul," to be released Fall 2000.
DigitalDoo on "./swank," CD with Interface (Dan Trueman and Curtis Bahn), Cycling 74 records, 2001.
Live Interactive Computer Music Performances:
  El Zorro, by Chris Chafe, for Seashells and Interactive Electronics, Delphi, Greece, 1992.
  Pico I, for Seashells and Interactive Electronics, Rovaniemi, Finland, July, 1997.
  Interactive Networked MIDI Jam Session, Columbia University to Tokyo, Dec. 1997.
  Live Performance at International Mathematica Conference, Chicago, June 1998.
  AbOrigins, for DigitalDoo (electronically enhanced digeridoo), with Dan Trueman, electric violin and Curtis
    Bahn, sensor bass, Moebius, Boston, September 2000.
    Also at Galapagos, Brooklyn, NY, April 10, 2001.
    Duo Monologues for two SqueezeVoxens, Princet University, February, 2001.
    Colby Leider, SqueezeVox Bart, Perry R. Cook, SqueezeVox Lisa
 7 Minutes from Tibet, for solo SqueezeVox (Lisa), Festival: Beyond the 88, Princeton Univ., February 2001.
    Also at Engine 27, New York, February 2001.
    Also, for solo SqueezeVox (Maggie) JBL Theatre, Experience Music Project Museum, Seattle, Mar., 2001.