GARY PAUL SCAVONE

Center for Computer Research in Music & Acoustics
Department of Music
Stanford University
Stanford, California 94305
(650)723-4971, ext. 352

140 Peter Coutts Circle
Stanford, California 94305
(650)213-8595
gary@ccrma.stanford.edu

EDUCATION:

1992-1997	Stanford University, Stanford, California. Ph.D., Computer-Based Music Theory & Acoustics (1997) M.S., Electrical Engineering (1995)
1989-1990	National Conservatory of Bordeaux Region, Bordeaux, France. Attended under Fulbright Scholarship
1984-1988	Syracuse University, Syracuse, New York. B.S., Electrical Engineering, Magna Cum Laude B.A., Music, Magna Cum Laude, Performance Honors

ENGINEERING EXPERIENCE:

1997-current	TECHNICAL DIRECTOR, Center for Computer Research in Music & Acoustics (CCRMA), Stanford University. Audio DSP and acoustic research, CCRMA/Industry relations.
1999-current	PROGRAMMING CONSULTANT, Kind of Loud Technologies. RealVerb C++ implementation and voicing.
1999-2000	PROGRAMMING CONSULTANT, Staccato Systems, Inc. DSP algorithm development.
1997	PROGRAMMING CONSULTANT, Signal Processing Associates, Inc. Speech codec implementations in C/C++ based on ITU-T specifications.
1994-1995	PROGRAMMING CONSULTANT, Sondius Project, Office of Technology Licensing, Stanford University. Objective C/C and Motorola DSP56000 programming and digital waveguide musical instrument design.
1991	SYSTEMS ENGINEER, Electronic Data Systems (EDS), Lockport, NY. Manufacturing and engineering computer support for a General Motors manufacturing facility.
1989	SYSTEMS ENGINEER, General Electric, Government Electronic Systems Department, Syracuse, NY. Firmware specifications documentation.

TEACHING EXPERIENCE:

1998-current	INSTRUCTOR, MUS150: Musical Acoustics, CCRMA, Department of Music, Stanford University.
1999	INSTRUCTOR, MUS320: Introduction to Digital Audio Signal Processing, CCRMA, Department of Music, Stanford University.
1995-current	SAXOPHONE STUDIO INSTRUCTOR, Department of Music, Stanford University.
1992-1994	TEACHING ASSISTANT, CCRMA, Department of Music, Stanford University.

- MUS421: Signal Processing Methods in Musical Acoustics
- MUS420: Applications of the Fast Fourier Transform
- MUS320: The Discrete Fourier Transform
- MUS154: Introduction to Computer Music

PUBLICATIONS & PRESENTATIONS:

Time-Domain Synthesis of Conical Bore Instrument Sounds *Proceedings of the 2002 International Computer Music Conference*, Göteborg, Sweden.

Tonehole Radiation Directivity: A Comparison Of Theory To Measurements [Scavone and Karjalainen] *Proceedings of the 2002 International Computer Music Conference*, Göteborg, Sweden.

RtAudio: A Cross-Platform C++ Class for Realtime Audio Input/Output *Proceedings of the 2002 International Computer Music Conference*, Göteborg, Sweden.

The Sonic Mapper: An Interactive Program For Obtaining Similarity Ratings With Auditory Stimuli [Scavone, Lakatos, Harbke] *Proceedings of the 2002 International Conference on Auditory Display*, Kyoto, Japan.

Tonehole radiation directivity measurements. [Scavone and Karjalainen] Presented at the *142nd meeting of the Acoustical Society of America*, Ft. Lauderdale, FL, December 2001.

Time-domain synthesis of conical bore instruments. Presented at the *142nd meeting of the Acoustical Society of America*, Ft. Lauderdale, FL, December 2001.

Perceptual spaces for sound effects obtained with an interactive similarity rating program. [Scavone, Lakatos, Cook, Harbke] *International Symposium on Musical Acoustics*, Perugia, Italy. September 2001.

Recent developments in woodwind instrument physical modeling. [Scavone and Lakatos] *17th International Congress on Acoustics*, Rome, Italy. September 2001.

An interactive similarity rating program for large timbre sets. [Lakatos, Scavone, Cook] Poster presented at the *141st meeting of the Acoustical Society of America*, Chicago, IL, June 2001.

A simplified approach to high quality music and sound over IP. [Chafe, Wilson, Leistikow, Chisholm, Scavone] *Proceedings of the COST G-6 Conference on Digital Audio Effects*, Verona, Italy, 2000.

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

The Wave Digital Tonehole Model. [van Walstijn and Scavone] *Proceedings of the 2000 International Computer Music Conference*, Berlin, Germany.

Knowledge Acquisition by listeners in a source learning task using physical models. [Scavone, Lakatos, Cook] Invited paper presented at the *139th meeting of the Acoustical Society of America*, Atlanta, GA. June 2000.

Selective Attention to the Parameters of a Physically Informed Sonic Model. [Lakatos, Cook, Scavone] *Acoustic Research Letters Online*, Acoustical Society of America, May 2000.

Modeling Wind Instrument Sound Radiation Using Digital Waveguides. *Proc. of the 1999 Int. Computer Music Conf.* , Beijing, China.

The Synthesis ToolKit in C++ (STK). [Cook and Scavone] *Proc. of the 1999 Int. Computer Music Conf.* , Beijing, China.

The Musical Acoustics Research Library. *Journal of the Catgut Acoustical Society*, Vol. 3, No. 6 (Series II), 1998.

Real-time Computer Modeling of Woodwind Instruments. [Scavone and Cook] *Proc. of the 1998 Int. Symp. on Musical Acoustics*, Leavenworth, WA.

The Musical Acoustics Research Library. [Scavone and Mathews] *Proc. of the 1998 Int. Symp. on Musical Acoustics*, Leavenworth, WA.

The One-Filter Keefe Clarinet Tonehole. [Smith and Scavone] *Proc. of the IEEE Workshop on Applied Signal Processing to Audio and Acoustics*, New York.

Digital Waveguide Modeling of Woodwind Toneholes. [Scavone and Smith] *Proc. of the 1997 Int. Computer Music Conf.* , Thessaloniki, Greece.

Scattering Parameters for the Keefe Clarinet Tonehole Model. [Scavone and Smith] *Proc. of the 1997 Int. Symp. on Musical Acoustics*, Edinburgh, Scotland.

An Acoustic Analysis of Single-Reed Woodwind Instruments with an Emphasis on Design and Performance Issues and Digital Waveguide Modeling Techniques, Ph.D. Thesis, Stanford University, 1997.

Digital Waveguide Modeling of Woodwind Toneholes. [Scavone and Smith] Presented at the Third Joint Meeting of the Acoustical Soc. of America and the Acoustical Soc. of Japan, December 1996, Honolulu, Hawaii.

Modeling and Control of Performance Expression in Digital Waveguide Models of Woodwind Instruments. *Proc. of the 1996 Int. Computer Music Conf.* , Hong Kong.

Digital Waveguide Modeling of the Non-Linear Excitation of Single-Reed Woodwind Instruments. *Proc. of the 1995 Int. Computer Music Conf.* , Banff, Canada.

Digital Waveguide Modeling of Air-Driven Reed Generators for the Synthesis of Brass and Woodwind Instrument Sounds. *Proc. of the Second Brazilian Symp. on Computer Music*, Canela, Brazil, 1995.

Combined Linear and Non-Linear Periodic Prediction in Calibrating Models of Musical Instruments to Recordings. [Scavone and Cook] *Proc. of the 1994 Int. Computer Music Conf.* , Århus, Denmark.

PROFESSIONAL INVOLVEMENT:

- DIRECTOR, The Musical Acoustics Research Library at The Center for Computer Research in Music and Acoustics.
- TECHNICAL COMMITTEE ON MUSICAL ACOUSTICS, The Acoustical Society of America, 1999-2005.
- BOARD OF DIRECTORS, The Catgut Acoustical Society.
- Paper reviewer for various journals and conferences.

AUXILIARY SKILLS:

- Professional saxophonist specializing in contemporary music.
- Reading and conversational abilities in French.
- Home brewer.

MEMBERSHIPS:

- Acoustical Society of America
- Audio Engineering Society
- International Computer Music Association
- The Catgut Acoustical Society

September, 2002