Curriculum Vitae

Tamara Smyth, Ph.D.
Department of Music, University of California San Diego
UC San Diego, 9500 Gilman Dr., La Jolla, CA 92093
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Education

Stanford University, Stanford, CA.
Ph.D., Computer-Based Music Theory and Acoustics, April 2004.
Ph.D. minor, Electrical Engineering, April 2004..

New York University, New York, NY.
M.Mus., Music Technology, September 1998.

McGill University, Montreal, QC.
B.Mus., Piano Performance and Computer Applications to Music (Joint Honours), September 1996.

Employment

July 2021-curent: **Professor**.
July 2012-2021: **Associate Professor**.
Department of Music, University of California San Diego, CA.

November 2004-2012: **Assistant/Associate (2012) Professor**.
School of Computing Science, Simon Fraser University, British Columbia, Canada.

April 2004-November 2004: **Technical Director and Lecturer (Musical Acoustics)**.
Center for Research in Music and Acoustics (CCRMA), Department of Music, Stanford University, CA.

September 2003-April 2004: **Audio Software Consultant**.
Universal Audio Inc., Santa Cruz, CA.

September 1998-2003: **Teaching and Research Assistant**.
CCRMA, Department of Music, Stanford University, CA.
Activities include teaching labs, tutoring students and assisting with course development.

Summer 2000 and 2001: **Audio Software Consultant**.
autodesk*/discreet* (formerly Discreet Logic), Montreal, QC.

Summer 1999: **Researcher in Computer Music**.
IBM Research, T.J. Watson Research Center, Yorktown, NY.
Activities include music/audio technology research/development, assisting with music concerts at the Computer Music Center.

September 1997-September 1998: **Software Developer**.

Discreet Logic, Montreal, QC.
Activities include developing audio software and integrating audio subsystem into special effects software.

Summer 1997: **Student Consultant**.
Academic Computing Facility, Arts and Technology Group, New York University.
Activities include maintenance of multimedia equipment and advising students on a wide range of multimedia and audio software.

September 1993-May 1994: **Choir Director**.
St. Patrick's Parish, Montreal, QC.

Academic Activities

Service:

UC San Diego, Departmental Committees:

Graduate Committee, Member, *2022-present*.
First Year Area Advisor (Computer Music), *2019-present (4 yrs)*.
Faculty Search Committee, Member (Assistant Professor, Computer Music), *2023*.
Faculty Search Committee, Member (LPSOE, Electronic Music), *2018-19*.
Distinguished Lecturer Selection Committee, Member, *2017-18*.
Faculty Search Committee, Chair (Sound Studies), *2015-16*.
Research Committee, Member, *2013-15 (2 yrs)*.
Academic Senate Department Representative, *2012-14 (2 yrs)*.

UC San Diego, Academic Senate Committees:

Admissions Committee, *2020-present (3 yrs)*.
Academic Integrity Review Board, *2017-present (6 yrs)*.
Faculty Welfare, *2017-20 (3 yrs)*.

Simon Fraser University Service:

Graduate Program Committee, Member, *2005-6, 2007-8, 2008-9, 2011-12*.
Faculty Search Committee, Member, *2011-12*.
Faculty of Communication, Art and Technology (FCAT) Liaison *2009-10, 2010-11, 2011-12*.
Undergraduate Program Committee, Member, *2006-7*.

Teaching

UC San Diego (quarters: Fall (F), Winter (W), Spring (S)):

Graduate:
MUS 270a: Digital Audio Processing
W: *2013-15, 19 (4 qtrs)*, **F:** *2015-17, 19-23 (8 qtrs)*.
MUS 206/267: Comp. Acoustic Modeling for Sound Synthesis
W: *2013, 16-18 (4 qtrs)*, **S:** *2014, 15, 19-23 (7 qtrs)*.
MUS 270d: Advanced Projects in Computer Music
S: *2013-18, 21-23 (9 qtrs)*, **W:** *2019*, **F:** *2019*.

Undergraduate:
MUS 175: Psychoacoustics, **S:** *2014-23 (10 qtrs)*.
MUS 170: Musical Acoustics, **F:** *2012, 15-17 (4 qtrs)*.
MUS 171: Computer Music I **W:** *2014, 19, 22 (3 qtrs)*, **F:***2019-20, 22-23 (4 qtrs)*.

	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
270a:	W	W	W	F	F	F	W	F	F	F	F	(F)
206/67:	W	S	S	W	W	W	S	S	W	W	W	(W)
270d:	S	S	S	S	S	S	W	F	S	S	S	(S)
175:		S	S	S	S	S	S	S	S	S	S	(S)
170:	F			F	F	F						
171:		W					W	F	F	W	F	(F)

Simon Fraser University (semesters: Fall (F), Spring (S)):

Graduate:
CMPT 889: Computational Modelling for Sound Synthesis, **F:** *2005, 06, 07, 09*, **S:** *2012*.
CMPT 468/768: Computer Music Theory and Sound Synthesis (u/grad), **S:** *2009, 10*, **F:** *2011*.
CMPT 894: Directed Reading, **S:** *2008*.

Undergraduate:
CMPT 165: Introduction to the Internet and the World Wide Web, **F:** *2011*.
CMPT 415: Special Research Project, **S:** *2009*.
CMPT 125: Introduction to Computer Science and Programming II, **S:** *2009*.
CMPT 368: Computer Music Theory and Sound Synthesis, **S:** *2007, 08*.
CMPT 126: Introduction to Computer Science and Programming, **F:** *2006, 07*.
CMPT 318: Fundamentals of Computerized Sound, **S:** *2005, 06*.

Stanford University (quarters: Autumn (A), Winter (W), Spring (S))

Instructor—Undergraduate:
MUS 150: Musical Acoustics, **S:** *2004*.

Teaching Assistant—Graduate:
MUS 320: Introduction to Digital Audio Signal Processing, **A:** *2002*.
CS 377b / MUS 250a: Computer-Human Interaction Technology, **A:** *2000*.

Teaching Assistant—Undergraduate:
MUS 151: Psychophysics and Cognitive Psychology for Musicians, **S:** *2001*.
MUS 220b: Synth. Techniques, Compositional Algorithms, Psychoacoustics and Spatial Proc., **W:** *2001*.
MUS 22: Elements of Music II, **S:** *2000*.
MUS 21: Elements of Music I, **W:** *2000*.
MUS 20: Jazz Theory, **A:** *1999*.

Awards, Grants and Honours

Academic Senate Research Grant. UC San Diego, *Real-time Parametric 2-D Mesh with Application to Interactive Musical Instruments*, Winter 2017-Fall 2018 ($14,174.82).

Best Paper. International Computer Music Conference (ICMC) 2015, with Greg Surges (first author) and Miller Puckette.

New Media Initiative. Natural Sciences and Engineering Research Council of Canada (NSERC) with Canada Council for the Arts (CCA), *Interaction of acoustic and virtual musical instruments using synthesis models and their inversions*, 2010-2013 ($213,350.00).

Discovery Grant. Natural Sciences and Engineering Research Council of Canada (NSERC), *Modeling, extension, and parameter identification/estimation of vocal and musical instrument systems*, 2010-2015 ($75,000.00).

Discovery Grant. Natural Sciences and Engineering Research Council of Canada (NSERC), *Physics-Based Sound Synthesis and Model Parameter Estimation*, 2008-2010 ($32,000.00).

Discovery Grant. Natural Sciences and Engineering Research Council of Canada (NSERC), *Real-time Interactive Computer Simulations of Acoustic Systems*, 2005-2008 ($48,000.00).

President's Research Grant. Simon Fraser University, *Analysis of the Design and Playing Techniques of*

Southeast Asian Reed Instruments, 2005 ($10,000.00).

Student Paper Award Competition, Second Prize. 144$^{\text{th}}$ Meeting of the Acoustical Society of America, December 2002, Cancun, Mexico.

Stanford University Fellowship, 1998-2003.

Professional Service and Activities

Journal Editor

Associate Editor, Musical Acoustics, Journal of the Acoustical Society of America, 2017-present.
Coeditor (with Andrew McPherson), special issue of *Computer Music Journal*, "Musical Interface Design", 41:2, Summer 2017.

Conference Committees

Chair:

Session Chair, "Physical Modeling of Musical Instruments and Singing Voice",
26^{th} International Congress on Sound and Vibration (ICSV26), July 2019.

Session Chair, "Modeling, Synthesis II",
International Symposium on Musical Acoustics (ISMA), June 2017.

Conference Paper Chair (with Andrew McPherson),
International Conference on Interfaces for New Musical Expression (NIME), July 2016.

Special Session Cochair (with Gary Scavone), "Player/Instrument Coupling",
165^{th} Meeting of the Acoustical Society of America (ASA) / 21^{st} International Congress on Acoustics (ICA), June 2013.

Special Session Cochair (with Julius O. Smith), "Virtual Musical Instruments",
149^{th} Meeting of the Acoustical Society of America (ASA) / Canadian Acoustical Association (CAA), May 2005.

Program/Scientific Committee Member (Paper Reviewer):

International Computer Music Conference (ICMC), 2004-2020.
International Conference on Digital Audio Effects (DAFx), 2006, 2018, 2020, 2021.
Audio Mostly (AM'20), 2020.
International Symposium on Music Acoustics (ISMA), 2017, 2019.
Sound and Music Computing Conference (SMC), 2009-2017.
New Interfaces for Musical Expression (NIME), 2014-17, 21.
International Conference on Auditory Displays (ICAD), 2014-15.
Journées d'Informatique Musicale, 2015.
Genetic and Evolutionary Computation Conference (GECCO), 2013-15.
Haptic-Audio Interaction Design (HAID), September 2010.
Eurographics (Tutorials program), 2009.
Graphics Interface (GI), 2007.
123rd Audio Engineering Society (AES) Convention, 2007.

Doctoral Dissertation External Reviewer

Jari Kleimola, "Nonlinear Abstract Sound Synthesis Algorithms",
Dept. of Signal Processing and Acoustics, School of Engineering, Aalto University, Finland, Spring 2013.

Jung Suk Lee, "Categorization and Modling of Sound Sources for Sound Analysis/Synthesis",
Music Technology Area, Schulich School of Music, McGill University, Montreal, Canada, Spring 2013.

Journal Paper Reviewer:

Journal of New Music Reserach, July 2023.
Journal of the Audio Engineering Society, Special Issue on New Trends in Audio Effects, January 2022.
Journal of the Audio Engineering Society, Special Issue on Audio Filter Design, December 2021.
Journal of the Acoustical Society of America, August 2020.
Acta Acustica united with Acustica, February 2008, January 2015.
ACM Journal on Computing and Cultural Heritage, September 2013.
IEEE Transactions on Audio, Speech and Language Processing, 2006 and 2007.
IEEE Transactions on Speech and Audio Processing, 2004 and 2005.

Grant Reviewer:

Social Sciences and Humanities Research Council of Canada (SSHRCC),
Insight Grant ($100,000.00 - 400,000.00$), February 2022.
Canada Foundation for Innovation (CFI),
Fonds des leaders, (reviewed three (3) strategic grants $> 500,000.00$), 2014.
Natural Sciences and Engineering Research Council of Canada (NSERC),
Discovery Grant, 2005-2008.
Canada Council for the Arts and NSERC,
New Media Initiative, 2006-2008.

Invited Conference Talks:

181^{st} Meeting of the Acoustical Society of America, Seattle, Washington, December 2021.
26^{th} International Congress on Sound and Vibration, Montreal, Canada, July 2019.
176^{th} Meeting of the Acoustical Society of America, Victoria, Canada, November 2018.
5^{th} Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan, December 2016, Honolulu, Hawaii.
166^{th} Meeting of the Acoustical Society of America, San Francisco, California, December 2013.
21^{st} International Congress on Acoustics / 165^{th} Meeting of the Acoustical Society of America, Montreal, Canada, June 2013 (2 talks).
2^{nd} Pan-American/Iberian Meeting on Acoustics, Cancun, Mexico, November 2010.
155^{th} Meeting of the Acoustical Society of America (Acoustics'08), Paris, France, July 2008.
19^{th} International Congress on Acoustics, September 2007, Madrid, Spain.
152^{nd} Meeting of the Acoustical Society of America, November—December 2006, Honolulu, Hawaii.
IEEE International Workshop on Multimedia Signal Processing, October 2006, Victoria, British Columbia.
148^{th} Meeting of the Acoustical Society of America, November 2004, San Diego, California.
146^{th} Meeting of the Acoustical Society of America, November 2003, Austin, Texas.

Additional Invited Talks:

- "Explorations in Convolutional Synthesis", Vancouver Computer Music Meetings, Great Northern Way Campus, May 2009.
- "An Introduction to Computer Music and Sound Synthesis", School of Interactive Arts and Technology (SIAT) Research Colloquium, Simon Fraser University, January 2007.
- "Expanding our Notion of Musical Instruments", Grand Opening, Simon Fraser University, Surrey Campus, September 2006.
- *Computer Music Research Forum: Current and Future Research Trends in Computer Music*, Newstage Festival, Center for Computer Research in Music and Acoustics (CCRMA), Stanford University, April 2006, Stanford, California.

- "A General Reed Model for Computer Music Applications", Human Communication Technologies Laboratory, Dept. of Electrical and Computer Engineering, University of British Columbia, October 2005, Vancouver, British Columbia.
- "Physical Modelling of Reed-based Musical Instruments", University of British Columbia, Physics and Astronomy Dept. Colloquium, April 2005, Vancouver, British Columbia.
- "Virtual Musical Instruments", Science One Program, University of British Columbia, March 2005, Vancouver, British Columbia.
- "Introduction to Physical Modelling Sound Synthesis", Scientific I, Simon Fraser University, February 2005.
- **Radio Guest** on *Bunny Watson* hosted by Bill Richardson, CBC Radio, December 2004.

Publications

[1] Tamara Smyth, "Abstract synthesis representation of nonlinear behaviour in coupled resonators," in *Proceedings of the* 181^{st} *Meeting of the Acoustical Society of America*, Seattle, Washington, December 2021, vol. 150, presentation by invitation, published abstract.

[2] Tamara Smyth and Devansh Zurale, "On the role of lip reflection/transmission in the relationship between lpc and waveguide vocal tract models," in *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA-2021)*, New Paltz, NY, October 2021.

[3] Tamara Smyth and Devansh Zurale, "On the transfer function of the piecewise cylindrical vocal tract model," in *Proceedings of the* 18^{th} *Sound and Music Computing Conference*, online, June 2021, virtual conference.

[4] Tamara Smyth, "On the similarity between feedback/loopback amplitude and frequency modulation," in *Audio Engineering Society Convention 147*, New York, NY, October 2019.

[5] Tamara Smyth and Jennifer S. Hsu, "On phase and pitch in loopback frequency modulation with a time-varying feedback coefficient," in *Proceedings of the* 26^{th}*International Congress on Sound and Vibration*, Montreal, Canada, July 2019, presentation by invitation.

[6] Tamara Smyth and Jennifer S. Hsu, "Representations of self-coupled modal oscillators with time-varying frequency," in *Proceedings of the* 16^{th} *Sound and Music Computing Conference*, Málaga, Spain, May 2019.

[7] Jennifer S. Hsu and Tamara Smyth, "Percussion synthesis using loopback frequency modulation oscillators," in *Proceedings of the* 16^{th} *Sound and Music Computing Conference*, Málaga, Spain, May 2019.

[8] Tamara Smyth and Jennifer S. Hsu, "Power-preserving nonlinear modal coupling, feedback frequency/phase modulation, and the stretched allpass filter," in *Proceedings of the* 176^{th} *Meeting of the Acoustical Society of America*, Victoria, Canada, November 2018, vol. 144, presentation by invitation, published abstract.

[9] Tamara Smyth, Jennifer Hsu, and Ryan Done, "Toward a real-time waveguide mesh implementation," in *Proceedings of the 2017 International Symposium on Musical Acoustics (ISMA)*, Montreal, Canada, June 2017.

[10] Tamara Smyth and Jennifer S. Hsu, "Toward a real-time parametric percussion instrument based on a waveguide mesh," in 5^{th} *Joint Meeting of the Acoustical Society of America and Acoustical Society of Japan*, Honolulu, Hawaii, November 2016, vol. 140, presentation by invitation, published abstract.

[11] Greg Surges, Tamara Smyth, and Miller Puckette, "Generative audio systems using power-preserving all-pass filters," *Computer Music Journal*, vol. 40, no. 1, pp. 54–69, Spring 2016.

[12] Jennifer Hsu and Tamara Smyth, "Specifying sounding frequency of a voice model during live interactive saxophone performance," in *Proceedings of the 41st International Computer Music Conference*, Denton, Texas, September/October 2015, p. 4 pages.

[13] Greg Surges and Tamara Smyth, "Generative feedback networks using time-varying allpass filters," in *Proceedings of the 41st International Computer Music Conference*, Denton, Texas, September/October 2015, p. 8 pages.

[14] Cheng-i Wang, Tamara Smyth, and Zachary C. Lipton, "Estimation of saxophone control parameters by convex optimization," in *Proceedings of the 9th Conference on Interdisciplinary Musicology*, Berlin, Germany, December 2014, p. 4 pages.

[15] Tamara Smyth and Cheng-i Wang, "Toward real-time estimation of tonehole configuration," in *Proceedings of the 40th International Computer Music Conference and the 11th Sound and Music Computing Conference 2014*, Athens, Greece, September 2014, pp. 1477–1482.

[16] Tamara Smyth, "Saxophone fingering identification," in *166th Meeting of the Acoustical Society of America*, San Francisco, California, December 2013, number ID: 1774771, presentation by invitation, published abstract.

[17] Brendan Bernhardt Gaffney and Tamara Smyth, "Acoustics-like dynamics in signal-based synthesis through parameter mapping," in *Proceedings of the Stockholm Music Acoustics Conference and the Sound and Music Computing Conference 2013*, Stockholm, Sweden, July-August 2013, p. 5 pages.

[18] Greg Surges and Tamara Smyth, "Spectral distortion using second-order allpass filters," in *Proceedings of the Stockholm Music Acoustics Conference and the Sound and Music Computing Conference 2013*, Stockholm, Sweden, July-August 2013, p. 6 pages.

[19] Tamara Smyth and Marjan Rouhipour, "Saxophone modelling and system identification," in *Proceedings of the* 21st *International Congress on Acoustics*, Montreal, Canada, June 2013, p. 5 pages, presentation by invitation.

[20] Tamara Smyth and Frederick Scott, "A trombone model emphasizing acoustic accuracy and playability," in *Proceedings of the* 21st *International Congress on Acoustics*, Montreal, Canada, June 2013, p. 6 pages, presentation by invitation.

[21] Tamara Smyth and Srikanth Cherla, "Saxophone by model and measurement," in *Proceedings of the 9th Sound and Music Computing Conference*, Copenhagen, Denmark, July 2012, p. 6 pages.

[22] Matthieu Macret, Philippe Pasquier, and Tamara Smyth, "Automatic calibration of modified fm synthesis to harmonic sounds using genetic algorithms," in *Proceedings of the 9th Sound and Music Computing Conference*, Copenhagen, Denmark, July 2012, p. 8 pages.

[23] Tamara Smyth and Jonathan S. Abel, "Toward an estimation of the clarinet reed pulse from instrument performance," *Journal of the Acoustical Society of America*, vol. 131, no. 6, pp. 4799–4810, June 2012.

[24] Tamara Smyth, "Estimation of clarinet mouthpiece reflection from measurement and the instrument's produced sound," in *162nd Meeting of the Acoustical Society of America*, San Diego, California, October/November 2011, presentation, published abstract.

[25] Tamara Smyth and Frederick S. Scott, "Parametric trombone synthesis by coupling dynamic lip valve and instrument models," in *Proceedings of the 8th Sound and Music Computing Conference*, Padova, Italy, July 2011, p. 6 pages.

[26] Tamara Smyth and Frederick S. Scott, "Trombone synthesis by model and measurement," *EURASIP Journal on Advances in Signal Processing*, vol. 2011, no. Article ID 151436, pp. 13 pages, 2011, doi:10.1155/2011/151436.

[27] Tamara Smyth and Jonathan Abel, "Estimation of reed flow signal from instrument performance," in *2nd Pan-America/Iberian Meeting on Acoustics*, Cancun, Mexico, October/November 2010, vol. 128, p. 2344, presentation by invitation, published abstract.

[28] Adam Kestian and Tamara Smyth, "Real-time estimation of the vocal tract shape for musical control," in *Proceedings of the 7^{th} Sound and Music Computing Conference*, Barcelona, Spain, July 2010, pp. 206–211.

[29] Tamara Smyth and Jonathan Abel, "Estimating waveguide model elements from acoustic tube measurements," *Acta Acustica united with Acustica*, vol. 95, no. 6, pp. 1093–1103, 2009.

[30] Tamara Smyth and Jonathan Abel, "Estimating the reed pulse from clarinet recordings," in *Proceedings of the ICMC 2009*, Montreal, Canada, August 2009, International Computer Music Conference, pp. 235–238.

[31] Tamara Smyth and Andrew R. Elmore, "Explorations in convolutional synthesis," in *Proceedings of the 6^{th} Sound and Music Computing Conference*, Porto, Portugal, July 2009, pp. 283–287.

[32] Tamara Smyth, "Review of *Musimathics: The Mathematical Foundations of Music, Vol. 2*, by Gareth Loy," *Organized Sound*, vol. 13, no. 03, pp. 271–273, December 2008.

[33] Tamara Smyth and Alireza Fathi, "Voice synthesis using the generalized pressure controlled-valve," in *Proceedings of ICMC 2008*, Belfast, Ireland, August 2008, pp. 57–60.

[34] Tamara Smyth and Jonathan Abel, "Extracting reed control parameters using acoustic measurements and inverse filtering," in *155th Meeting of the Acoustical Society of America (ASA)*, Paris, France, June 2008, published abstract.

[35] Tamara Smyth and Jonathan Abel, "Convolutional synthesis of wind instruments," in *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'07)*, New Paltz, New York, October 2007.

[36] Tamara Smyth and Jonathan Abel, "Modeling and measurement of wind instrument bores," in *19th International Congress on Acoustics*, Madrid, Spain, September 2007.

[37] Tamara Smyth and Jonathan Abel, "Extending the generalized reed model with measured reflection functions," in *Proceedings of ICMC 2007*, Copenhagen, Denmark, August 2007, International Computer Music Conference, pp. 252–255.

[38] Tamara Smyth and Jonathan Abel, "Observing the effects of waveguide model elements in acoustic tube measurements," in *152nd Meeting of the Acoustical Society of America (ASA)*, Honolulu, Hawaii, November 2006, vol. 120, p. 3331, presentation by invitation, published abstract.

[39] Tamara Smyth, Tom N. Smyth, and Arthur E. Kirkpatrick, "Exploring the virtual reed parameter space using haptic feedback," in *Proceedings of the IEEE International Workshop on Multimedia Signal Processing (MMSP 2006)*, Victoria BC, Canada, October 2006, pp. 45–49, Invited paper.

[40] Tamara Smyth, "A handheld acoustic filter bank for musical control," in *Proceedings of NIME 2006*, Paris, France, June 2006, Conference on New Instruments for Musical Expression, pp. 314–317.

[41] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "A generalized parametric reed model for virtual musical instruments," in *Proceedings of ICMC 2005*, Barcelona, Spain, September 2005, International Computer Music Conference, pp. 347–350.

[42] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "Musical effects of the digital pressure-controlled valve," San Diego, California, November 2004, Acoustical Society of America, vol. 116, p. 2563, presentation by invitation, published abstract.

[43] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "The feathered clarinet reed," in *Proceedings of the International Conference on Digital Audio Effects (DAFx'04)*, Naples, Italy, October 2004, pp. 95–100.

[44] Gamhewage C. de Silva, Tamara Smyth, and Michael J Lyons, "A novel face-tracking mouth controller and its applications to bioacoustic models," in *Proceedings of NIME 2004*, Hamamatsu, Japan, June 2004, International Conference on New Interfaces for Musical Expression, pp. 169–172.

[45] Tamara Smyth, *Applications of Bioacoustics to Musical Instrument Technology*, Ph.D. thesis, Stanford University, April 2004.

[46] Tamara Smyth and Julius O. Smith, "A musical controller based on the cicada's efficient buckling mechanism," *Journal of New Music Research*, vol. 32, no. 4, pp. 361–368, December 2003.

[47] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "Feathered collisions in beating reed simulation," Austin, Texas, November 2003, Acoustical Society of America, vol. 114, p. 2325, presented by invitation. Press paper available at http://www.acoustics.org/press/146th/Smyth.htm.

[48] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "Discrete-time simulation of air-flow cut-off in pressure-controlled valves," in *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'03)*, New Paltz, New York, October 2003, pp. 229–232.

[49] Jonathan Abel, Tamara Smyth, and Julius O. Smith, "A simple, accurate wall loss filter for acoustic tubes," in *DAFX 2003 Proceedings*, London, UK, September 2003, International Conference on Digital Audio Effects, pp. 53–57.

[50] Tamara Smyth, Jonathan Abel, and Julius O. Smith, "The estimation of birdsong control parameters using maximum likelihood and minimum action," in *Proceedings of SMAC 03*, Stockholm, Sweden, August 2003, Stockholm Music Acoustics Conference, pp. 413–416.

[51] Tamara Smyth and Julius O. Smith, "The syrinx: Nature's hybrid wind instrument," in *CD-ROM Paper Collection*, Cancun, Mexico, September 2002, Pan-America/Iberian Meeting on Acoustics, Student Paper Award.

[52] Tamara Smyth and Julius O. Smith, "The sounds of the avian syrinx—are they really flute-like?," in *DAFX 2002 Proceedings*, Hamburg, Germany, September 2002, International Conference on Digital Audio Effects, pp. 199–202.

[53] Tamara Smyth and Julius O. Smith, "Creating sustained tones with the cicada's rapid buckling mechanism," in *Proceedings of NIME 2002*, Dublin, Ireland, May 2002, Conference on New Instruments for Musical Expression, pp. 112–115.

[54] Patricio De la Cuadra, Tamara Smyth, Chris Chafe, and Han Baoqiang, "Waveguide simulation of neolithic Chinese flutes," in *Proceedings of ISMA 2001*, Perugia, Italy, September 2001, International Symposium on Musical Acoustics, pp. 181–184.

[55] Tamara Smyth and Julius O. Smith, "Applications of bioacoustics in physical modeling and the creation of new musical instruments," in *Proceedings of ISMA 2001*, Perugia, Italy, September 2001, International Symposium on Musical Acoustics, pp. 267–270.

[56] Tamara Smyth and Julius O. Smith, "A musical instrument based on a bioacoustic model of a cicada," in *Proceeding of ICMC 2001*, Havana, Cuba, September 2001, International Computer Music Conference, pp. 174–177.