

*Curriculum Vitae* (updated Sept 2008)

## **W. Tecumseh Fitch, Ph.D.**

full name: William Tecumseh Sherman Fitch III\*  
Born Boston, Massachusetts, US (1963)

Lecturer, School of Psychology University of St. Andrews St. Andrews, Fife, KY16 9JU, Scotland, UK www.st-andrews.ac.uk/~wtsf	wtsf@st-andrews.ac.uk +44 1334 462054 (voice) +44 1334 463042 (fax)
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### *Teaching/Professional Experience*

**Permanent Position:** Reader, School of Psychology, University of St. Andrews (2003 - present)

Dec 2005- Mar 2006: Leibniz Professor, & Visiting Scholar, Max Planck Institute EVA, Leipzig.  
2002-2003: Fellow, European Institute for Advanced Study, Berlin, Germany.

**Lecturer, Harvard University:** Organismic & Evol. Biology & Dept. of Psychology (1999-2002)  
Graduate Teaching Assistant & Lecturer, Brown University (1989-1994)

Computer Programmer/Consultant: Boston, Providence, New York and Innsbruck. (1988-2001)

Medical Translator (German to English): Innsbruck, Austria. 1988.

Research Assistant (Coral reef fish ethology) with Dr. D. Y. Shapiro: H. Steinitz Marine Lab,  
Eilat, Israel & Dept. Marine Science, Univ. of Puerto Rico 1986-1988.

### *Education*

Postdoctoral Fellow, Harvard/MIT Speech & Hearing Science Program, (1996-1999)

Ph.D., Cognitive and Linguistic Sciences, Brown University, (1989-1994)

B.A. with honors, Biology, Brown University, (1981 -1986)

### *Research Awards and Academic Honors*

**Leibniz Professorship** (Visiting Professorship, University of Leipzig) - Oct 2005- Mar 2006

Recipient, John G. Pisano award, National Institutes of Health, (July 2003)

**Invited Fellow**, European Advanced Studies Institute, Berlin, Germany (2002-2003)

National Institutes of Health Postdoctoral Fellowship, (1996 -1999).

German-American Exchange Fellowship: "Evolution of Intelligence". May 1998-99.

Visiting Fellow, BC Advanced Systems Institute. Victoria, British Columbia January 1995.

Research Grant from Apple Computer "Sonification of Physiological Sounds". January 1993.

National Science Foundation Research Fellow (three years). September 1990.

Selected participant, McDonnell Cognitive Neuroscience Institute, Dartmouth, July 1990.

National Institutes of Health Intramural Research Training Award. June, 1990.

**James F. Kidwell Prize in Population Biology**, Brown University. May 1986.

Elected to Sigma Xi. May 1986.

Explorer's Club Research Grant. July 1985.

Sigma Xi Grant In-Aid of Research. Dec 1984.

1981 US National Merit Scholarship Finalist.

### *Research Interests and Projects*

Research Interests: The evolution and neural basis of cognition and communication.

Biolinguistics. Bioacoustics: physiology and perception of vertebrate vocalization (including human speech). The evolution of animal communication systems, including speech, language and music. Theoretical biology. Auditory display of data. Aesthetics.

Selected Research Projects:

Current: Writing a book: "The Evolution of Language" (Cambridge University Press)

2003 - present: Comparative Analysis of pattern perception in humans and animals, using formal language theory as a computational framework

1997 - present: Biophysics and computer modeling of vertebrate vocal production

(collaboration with Hanspeter Herzel, physicist, Institute of Theoretical Biology, Berlin)

1998 - present: Vocal production & evolution of communication in mammals

1998 - 2003: Interspecific comparison of syntactic abilities in primates and humans (collaboration with Marc Hauser, psychologist, Harvard University)  
1998 - 2001: Cineradiographic & electromyographic study of mammalian vocal production (collaboration with A. W. Crompton, functional morphologist, Harvard University)  
1997 - 1999: MRI analysis of human vocal anatomy & development (w/ Jay Giedd, NIH)  
1994 - 1999: Correlation between vocal anatomy, formants & body size in animals & humans.  
1994 - 1997: Comparative and theoretical analysis of tracheal elongation in birds  
1989 - 1994: PhD Thesis: vocal tract length and the evolution of human language.  
1990 - 1994: Sonification: the use of sound to perceive data (w/ W. A Schloss, U. Victoria)  
1985 - 1990: Social behavior in sex-changing coral reef fish (w/ Douglas Shapiro, U. Puerto Rico)

### ***Professional Affiliations***

Acoustical Society of America, American Institute of Physics, Sigma Xi, International Community for Auditory Display.

### ***Advisory Boards***

Human Origins Museum Exhibition: Scientific Advisor: American Museum of Natural History, New York, NY, USA.

BioMusic Museum Exhibition: Scientific Consultant. Funded by NSF, \$5.5 million US Member, Technical Committee on Animal Bioacoustics, Acoustical Society of America.

### ***Languages/Computer Programming***

Native: English. Others in order of descending fluency: German , Spanish, French, Portuguese.

Experienced programmer in Python, C, Matlab, Pascal, BASIC and Motorola 68K assembly language; Unix and Macintosh operating systems. As a computer consultant, specialized in developing graphic interfaces and computer simulations for scientific applications (hydrogeology, asbestos management, tropical ecology). Recent focus: digital signal processing for acoustic analysis and synthesis of animal sounds and human speech, sound synthesis for auditory presentation of data, and physical modeling of acoustic systems.

***Publications (I currently have 72 publications including 39 journal articles and 21 book or encyclopedia chapters. Of my journal articles 33 are peer-reviewed and I am first author on 26)***

### **Top 6 publications:**

Fitch, W. T. (2007). "Linguistics: An Invisible Hand," *Nature* 449, 665-667.

Fitch, W. T. (2006). "The biology and evolution of music: A comparative perspective," *Cognition* 100, 173-215.

Fitch, W. T., & Hauser, M. D. (2004). Computational constraints on syntactic processing in a nonhuman primate. *Science*, 303, 377-380.

Hauser, M., Chomsky, N. & Fitch, W. T. (2002). The Language Faculty: What is it, who has it, and how did it evolve? *Science*, 298, 1569-1579.

Fitch, W.T. and D. Reby (2001), The descended larynx is not uniquely human. *Proceedings of the Royal Society, B*, 268(1477): 1669-1675.

Fitch, W. T. (1997). "Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques," *Journal of the Acoustical Society of America* 102: 1213-1222.

### **The rest by date:**

Fitch, WT (in press) " The Biology & Evolution of Language: "Deep Homology" and the Evolution of Innovation" in *The Cognitive Neurosciences IV* (ed. Gazzaniga, M. S.) (MIT Press)

Fitch, W. T. (in press). "The Biology and Evolution of Rhythm: Unravelling a Paradox," in *Language and Music as Cognitive Systems*, edited by P. Rebuschat (Cambridge University Press, Cambridge, UK).

Fitch, W. T. (in press). "Co-evolution of phylogeny and glossogeny: There is no "logical problem of

- Fitch, W. T. (in press) "Fossil Cues to the Evolution of Speech" in volume "*Cradle of Language*", Botha and Knight, Eds. (Oxford University Press)
- Fitch, W. T. (in press). "Three Meanings of "Recursion: Key Distinctions for Biolinguistics," in volume "*Language Evolution*" edited by R. Larson, *et al.*
- Fitch, W. T., von Graevenitz, A., and Nicolas, E. (in press). "Bio-Aesthetics, Dynamics and the Aesthetic Trajectory: A Cognitive and Cultural Perspective," in *Neuroaesthetics*, edited by M. Skov (Baywood).
- Fitch, W. T. (in press). "Prolegomena to a Science of Biolinguistics".(in "*Learning from Animals?*" edited by Louise Roeska-Hardy, Psychology Press, London)
- Fitch, W. T. (2008). "Glossogeny and Phylogeny: Cultural Evolution meets Genetic Evolution," *Trends in Genetics* 24(8): 373-374
- Fitch, W. T. (2008). "Animals and the biology of music," in *The New Encyclopedia of Neuroscience*, edited by L. R. Squire, *et al.* (Elsevier, Oxford, UK).
- Fitch, W. T. (2008). "Nano-Intentionality: A Defense of Intrinsic Intentionality," *Biology and Philosophy* 23: 157-177
- Fitch, W. T. (2007). "Linguistics: An Invisible Hand," *Nature* 449, 665-667.
- Fitch, W. T. (2007). "The Evolution of Language: A Comparative Perspective," in *Oxford Handbook of Psycholinguistics*, edited by G. Gaskell (Oxford University Press, Oxford).
- Fitch, W. T., and Rosenfeld, A. J. (2007). "Perception and production of syncopated rhythms," *Music Perception*. 25: 43-58
- Fitch, W. T. (2007). "Evolving Meaning: The Roles of Kin Selection, Allomothering and Paternal Care in Language Evolution," in *Emergence of Communication and Language*, edited by C. Lyon, C. Nehaniv, and A. Cangelosi (Springer, New York) pp 29-51.
- Fitch, W. T., and Fritz, J. B. (2006). "Rhesus macaques spontaneously perceive formants in conspecific vocalizations," *J. Acoustic. Soc. Am.* 120:2132-2141
- Fitch, W. T. (2006). "Production of Vocalizations in Mammals," in *Encyclopedia of Language and Linguistics*, edited by K. Brown (Elsevier, Oxford), pp. 115-121.
- Fitch, W. T. (2006). "The biology and evolution of music: A comparative perspective," *Cognition* 100, 173-215.
- Fitch, W. T. (2006). "On the biology and evolution of music," *Music Perception* 24, 85-88.
- Zaccarelli, R., Elemans, C. P. H., Fitch, W. T., and Herzog, H. (2006). "Modelling Bird Songs: Voice Onset, Overtones and Registers," *Acta Acustica*.
- Harris, T., R, Fitch, W. T., Goldstein, L. M., and Fashing, P. J. (2006). "Black and white colobus monkey (*Colobus guereza*) roars as a source of both honest and exaggerated information about body mass," *Ethology* 112, 911-920.
- Hatzikirou, H., Fitch, W. T., and Herzog, H. (2006). "Voice instabilities due to source-tract interactions," *Acta Acustica* 92, 468-474.
- Fitch, W. T. (2006). Production of Vocalizations in Mammals. In K. Brown (Ed.), *Encyclopedia of Language and Linguistics* (2nd ed., Vol. 10, pp. 115-121). Oxford: Elsevier.
- Reby, D., McComb, K., Cargnelutti, B., Darwin, C., Fitch, W. T., and Clutton-Brock, T. (2005). "Red deer stags use formants as assessment cues during intrasexual agonistic interactions," *Proc. Roy. Soc. Lond.*, B 272, 941-947.
- Fitch, W. T. (2005). "The Evolution of Music in Comparative Perspective," in *The Neurosciences and Music II: From Perception to Performance*, edited by G. Avanzini, L. Lopez, S. Koelsch, and M. Majno (New York Academy of Sciences, New York), pp. 29-49.
- Fitch, W. T. (2005). Dancing to Darwin's Tune: Review of Mithen 2005. *Nature*, 438:288
- Fitch, W. T., Hauser, M. D., & Chomsky, N. (2005). The Evolution of the Language Faculty: Clarifications and Implications. *Cognition* 97(2): 179-210.
- Fitch, W. T. (2005). Protomusic and protolanguage as alternatives to protosign (comment on Arbib). *Behavioral & Brain Sciences*, 28(2), 132-133.
- O'Donnell, T. J., Hauser, M. D., & Fitch, W. T. (2005). Using mathematical models of language experimentally *Trends in Cognitive Sciences*, 9(6), 284-289.
- Fitch, W. T. (2005). Computation and Cognition: Four distinctions and their implications. In A. Cutler (Ed.), *Twenty-First Century Psycholinguistics: Four Cornerstones* (pp. 381-400). Mahwah, New Jersey: Lawrence Erlbaum.

- Fitch, W. T. (2005). The evolution of language: A comparative review. *Biology and Philosophy*, 20, 193–230.
- Fitch, W. T. (2004). "Vocal Production System: Evolution," in *MIT Encyclopedia of Communication Sciences and Disorders*, edited by R. D. Kent (MIT Press, Cambridge, MA), pp. 56-59.
- Fitch, W. T. (2004). The search for meaning: Review of King 2004. *Nature*, 432, 804-805.
- Fitch, W. T. (2004). Die Stimme - aus biologischer Sicht. In B. Felderer (Ed.) (pp. 85-102). Berlin: Matthes & Seitz.
- Fitch, W. T. (2004). The evolution of language. In: *The Cognitive Neurosciences* (3rd Edition, Ed. by Gazzaniga, M.). Cambridge, MA: MIT Press.
- Fitch, W. T. (2004). Evolving Honest Communication Systems: Kin Selection and "Mother Tongues". In: *Evolution of Communication Systems: A Comparative Approach* (Ed. by Oller, D. K. & Griebel, U.). Cambridge, Massachusetts: MIT Press.
- Fitch, W. T., Neubauer, J., & Herzog, H. (2002). Calls out of chaos: The adaptive significance of nonlinear phenomena in mammalian vocal production. *Animal Behaviour*. 63: 407-418
- Fitch, W. T. & Hauser, M. D. (2002). Unpacking "Honesty": Vertebrate Vocal Production and the Evolution of Acoustic Signals. In: *Acoustic Communication* (Ed. Simmons, A. M., Fay, R. R. & Popper, A. N.), pp. 65-137. New York: Springer.
- Fitch, W. T. (2002). The Evolution of Spoken Language: A Comparative Approach. In: *International Conference on Spoken Language Processing* (Ed. by Hansen, J. L.), pp. 1-8. Denver, Colorado: University of Colorado.
- Fitch, W. T. (2002). Primate Vocal Production and its Implications for Auditory Research. In: *Primate Audition: Ethology and Neurobiology* (Ed. Ghazanfar, A.), pp. 87-108. Boca Raton, FL: CRC Press.
- Hauser, M. D. & Fitch, W. T. (2002). What are the uniquely human components of the language faculty? In: *Language Evolution: The State of the Art* (Ed. by Christensen, M. & Kirby, S.), pp. 158-181. Oxford: Oxford University Press.
- Weissengrüber, G. E., Forstenpointner, G., Peters, G., Kübber-Heiss, A. & Fitch, W. T. (2002). Hyoid apparatus and pharynx in the lion (*Panthera leo*), jaguar (*Panthera onca*), tiger (*Panthera tigris*), cheetah (*Acinonyx jubatus*), and domestic cat (*Felis silvestris f. catus*). *Journal of Anatomy (London)*, 201, 195-209.
- Fitch, W. T. (2002). Comparative Vocal Production and the Evolution of Speech: Reinterpreting the Descent of the Larynx. In: *The Transition to Language* (A. Wray, Ed.), Oxford: Oxford University Press pp 21-45
- Gennari, S., Sloman, S., Malt, B. & Fitch, W. T. (2002). Motion Events in Language and Cognition. *Cognition* 83: 49-79.
- Loeb, R. G. & Fitch, W. T. (2002). A laboratory evaluation of an auditory display designed to enhance intraoperative monitoring. *Anesthesia and Analgesia*, 94, 362-368.
- Fitch, W. T. (2002). The evolution of language comes of age. *Trends Cognitive Sciences*, 6, 278-279.
- Fitch, W. T. (2001) Review of 'Approaches to the Evolution of Language'. *Anthrop.Linguistics* 43: 236-242.
- Fitch, W. T. (2000). Vocal production in nonhuman mammals: Implications for the evolution of speech. *The Evolution of Language: Proceedings of the 3rd International Conference*, 102-103.
- Fitch, W. T. (2000) Skull dimensions in relation to body size in nonhuman mammals: The causal bases for acoustic allometry. *Zoology* 103: 40-58.

- Jungers, W. J., Holloway, R. L., Fitch, W. T. & Smith, R. J. (2000). Brain size and body size covariation in hominoids. *American Journal of Physical Anthropology*, Supp 30, 191.
- Fitch, W. T. (2000). "Evolution of speech: Reply to Skoyles" *Trends in Cognitive Sciences* 4: 405-406
- Fitch, W. T. (2000). "The evolution of speech: a comparative review," *Trends in Cognitive Sciences* 4(7): 258-267.
- Fitch, W. T. (2000). "The phonetic potential of nonhuman vocal tracts: Comparative cineradiographic observations of vocalizing animals," *Phonetica* 57: 205-218.
- Fitch, W. T., & Kelley, J. P. (2000). "Perception of vocal tract resonances by whooping cranes, *Grus americana*," *Ethology* 106(6): 559-574.
- Riede, T., & Fitch, W. T. (1999). "Vocal tract length and acoustics of vocalization in the domestic dog *Canis familiaris*," *Journal of Experimental Biology* 202: 2859-2867.
- Fitch, W. T. (1999): "Review of 'The Origin and Diversification of Language'". *American Anthropologist*.
- Fitch, W. T. and Giedd, J (1999): "Morphology and development of the human vocal tract: A study using MRI". *Journal of the Acoustical Society of America* 106: 1511-1522.
- Fitch, W. T. (1999): "Acoustic exaggeration of size in birds by tracheal elongation: Comparative and theoretical analyses" *Journal of Zoology (London)* 248: 31-49. (Discussed in "News & Views", *Nature* 399: 109.
- ICAD-NSF Report Committee, G. Kramer (Ed.) (1999): "The Sonification Report: Status of the Field and Research Agenda". National Science Foundation White Paper. Report authors: G. Kramer (Ed.), B. Walker, T. Bonebright, P. Cook, J. Flowers; N. Miner; J. Neuhoff, R. Bargar, S. Barrass, J. Berger, G. Evreinov, W. T. Fitch, M. Grohn, S. Handel, H. Kaper, H. Levkowitz, S. Lodha, B. Shinn-Cunningham, M. Simoni, S. Tipei
- Mergell, P., Fitch, W. T., & Herzell, H. (1999). "Modeling the role of non-human vocal membranes in phonation," *Journal of the Acoustical Society of America* 105(3): 2020-2028.
- Fitch, W. T. (1998). "Vocal tract dynamics during calling in nonhuman animals," *Journal of the Acoustical Society of America* 104(3): 1811.
- Hauser, M. D. and Fitch, W. T. (1998): "Reidentification and Redescription". *Behavioral & Brain Sciences* 21.
- Fitch, W. T. and Hauser, M. D. (1998): "Differences that make a difference: Do locus equations result from physical principles characterizing all mammalian vocal tracts?" *Behavioral & Brain Sciences* 21(2): 264-265.
- Fitch, W. T. (1998). "Modules, Minds and Mutant Monkeys: A Review of 'The Symbolic Species' by Terrence W. Deacon," Boston Review of Books, March.
- Fitch, W. T. S (1998). U.S. Patent 5730140 "Sonification system using synthesized realistic sounds modified by other medically-important variables for physiological monitoring".
- Fitch, W. T. (1997): "Innate mechanisms and the evolution of language," *Mother Tongue* 3: 123-134.
- Fitch, W. T. (1997). "Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques," *Journal of the Acoustical Society of America* 102: 1213-1222.
- Fitch, W. T. and Hauser, M. D. (1995): "Vocal Production in Nonhuman Primates: Acoustics, Physiology and Functional Constraints on "Honest" Advertising". *American Journal of Primatology* 37: 191-219.
- Fitch, W. T. and Kramer, G. (1994): "Sonifying the Body Electric: Superiority of an Auditory

Sonification, Audification, and Auditory Interfaces" (Ed. G. Kramer). Santa Fe Institute Studies in the Sciences of Complexity, Vol 18. Reading, MA: Addison-Wesley.

Fitch, W. T. (1994). *Vocal tract length perception and the evolution of language*. Ann Arbor, Michigan: UMI Dissertation Services.

Norcross, J. L., Newman, J. D. and Fitch, W. T. (1994): "Responses to Natural and Synthetic Phee calls by Common Marmosets (*Callithrix jacchus*)". *American Journal of Primatology* 33: 15-29.

Fitch, W. T. S and Shapiro, D. Y. (1990): "Spatial Dispersion and Non-Migratory Spawning in the Bluehead Wrasse (*Thalassoma bifasciatum*)". *Ethology* 85: 199-211

#### **Public Understanding of Science/Press:**

In addition to the academic venues listed below, I have lectured to popular audiences on animal communication and on the evolution of music and language in many different venues. I have debated Creationists about evolution in several venues (most recently in a British Parliamentary style debate at the University of St Andrews Debating Society). My work has been featured in many newspapers and magazines including the New York Times, the Guardian, Science News, Der Spiegel, Le Monde, The New Yorker, Discover, Natural History and on international broadcast media including the BBC nightly news, National Public Radio, Radio 3 Italia, and the Norwegian Broadcast Company. Two full-length documentaries featuring my research have appeared on Danish and German television. I have not kept track of all of my academic lecturing since about 2004, but the list below gives some idea.

#### ***Invited Presentations and Lectures (a selection)***

Invited lecturer in Cognitive Neuroscience at McDonnell Cognitive Neuroscience Institute (Lake Tahoe, M Gazzaniga, organizer) and Gulbenkian Institute of Science Cognitive Neuroscience Course, Portugal (1 week, Feb 2004); Ticino Autumn Neurosciences School (1 week, autumn 2005), Oxford University Course in Cognitive Neuroscience (autumn 2005).

Fitch W T (2004) "The Biology and Evolution of Music and Language" - Neurosciences and Music Conference, Leipzig (2005); Max Planck Seeweisen (summer 2005); Music Neuroscience Italy (2004); Reading, UK: ESF Conference on Evolution of Language and Music organized by Steven Mithen (2004).

Fitch, W. T "The evolution of language: A comparative approach" The Kennedy Lecture. Ohio University (Jan 13, 2004).

Fitch, W. T. (2002): "Computation and Cognition: Some distinctions and their implications for language" - Invited lecture at Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands

Fitch, W. T (2002-2004) "The evolution of speech: A comparative approach" - Keynote lecture at the International Conference on Spoken Language Processing, Denver, CO. Similar lecture at Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, Conference on Language Evolution (Kyoto Japan); Northeastern University Dept. of Speech, University of Pennsylvania, Dept. of Psychology and Institute for Research in Cognitive Science, Marine Biological Laboratories Bioinformatics Workshop, Boston University Dept. of Cognitive Science.

Fitch, W. T (2002-2004) "The evolution of spoken language" European Science Foundation Exploratory Workshop on the Evolution of Communication, MRC Brain Sciences, Cambridge, UK (2002). Ohio University and University of Texas Dallas(2004).

Fitch W. T. (2001-2003) "The evolution of vertebrate vocal production": Institute of Theoretical Biology , Humboldt University, Berlin. Biology Dept, U Mass Amherst. Biology Dept., Brown University.

Fitch W. T. (2001-2002) "Mother Tongues: Kin Communication and the Evolution of Language" Konrad Lorenz Institute, Vienna (Altenberg), Austria. (also 2002, at Harvard Evolution of Language Conference)

- Fitch W. T. (2001) "Human voice perception: An evolutionary perspective" Harvard Mind/Brain/Behavior Program
- Fitch, W. T. (2001) "A Darwinian Approach to Beauty" Invited plenary lecture at the International Art Historian meeting, Hamburg, Germany
- Fitch, W. T. (2000) "The evolution of speech" Plenary lecture, AOL, Jena, Germany April 2000
- Fitch, W. T. (2000) "Comparative perspectives on the evolution of speech" and "Morphological diversity in the vertebrate vocal tract", lecture series , ATR, Kyoto, Japan
- Fitch, W. T. (1999) "On the phonetic capabilities of non-human animals" Festschrift for Bjorn Lindblom, June 1999, Stockholm, Sweden.
- Fitch, W. T. (1999) "Mechanisms of vocal production in non-human animals" Acoustics Group, Bell Labs, Lucent Technologies, 4/13/99, Murray Hill, NJ.
- Fitch, W. T. (1999) "Functional Morphology of the Vocal Tract in Vertebrate Bioacoustics" International Conference on Voice Physiology and Bioacoustics, Invited guest of Institute of Theoretical Biology, Berlin 3/13/99.
- Fitch, W. T. (1998) "How Special is Speech? The Origins and Evolution of Communication via Formants" Massachusetts Institute of Technology, Research Laboratory of Electronics, 11/18/98, Cambridge, MA.
- Fitch, W. T. (1998) "Language as a Phenomenon of the Third Kind" Invited speaker at Philosophy of Science Association Annual Meeting, 10/24/98, Kansas City, MO.
- Fitch, W. T. (1998) "Vocal tract dynamics during calling in non-human mammals". Selected speaker at Acoustical Society of America Meeting, 10/14/98, Norfolk VA.
- Fitch, W. T. (1998) "Vocal tract length as a cue to body size in birds and mammals: cost-free honest communication" Invited Speaker at International Primate Convention, August, Antananarivo, Madagascar.
- Fitch, W. T. (1998) "Formants, body size and the evolution of speech". Selected speaker at 2nd International Conference on the Evolution of Language. London (April 8, 1998)
- Fitch, W. T. (1997) "Production mechanisms and the evolution of communication: the role of vocal tract length". Invited speaker at National Institutes of Health, Laboratory of Comparative Ethology. (June 13, 1997)
- Fitch, W. T. (1997) "Vocal Tract Length and Formant Frequency Dispersion Correlate with Body Size in Rhesus Macaques". Invited speaker at Animal Bioacoustics session, Acoustical Society of America meetings. (June 19, 1997)
- Fitch, W. T. (1997) "Acoustics, Vocal Anatomy and the Evolution of Communication". Invited speaker at Harvard Anthropology Dept. (Feb 14, 1997) and Institute of Theoretical Biology, Berlin. (Jan 7, 1997)
- Fitch, W. T. (1996) "Variability in Form and Function of the Primate Larynx". Invited speaker, MIT Glottal Research Meeting (Dec 18, 1996)
- Fitch, W. T. (1996) "Honest Signals and the Evolution of the Vertebrate Vocal Tract". Eaton-Peabody Laboratory Seminar (April 19, 1996)
- Fitch, W. T. "Auditory Display of Physiological Vital Signs". Presentation at the First International Conference on Auditory Display at the Santa Fe Institute, Santa Fe, New Mexico (1992), at the University of British Columbia Computer Science Seminar (1995), and at the Simon Fraser University (1995), Massachusetts Eye & Ear Infirmary (1996), ICAD 2003 (Boston U 2003)

I have reviewed grants for the US NIH and NSF, and for the UK BBSRC and Leverhulme Foundation, as well as French, German and Israeli funding bodies. I am an Associate Editor for PloSone and the Journal of Experimental Psychology: General. I have reviewed manuscripts for Science, Nature, Proceedings of the National Academy of Sciences (USA), and Proceedings of the Royal Society, and the following journals (listed alphabetically): Animal Behaviour, American Journal of Primatology, Behavioral Ecology & Sociobiology, Brain & Behavioral Sciences, Cognition, Current Biology, Ethology, Evolution & Human Behavior, Folia Primatologica, Journal of the Acoustical Society of America, Journal of Cognitive Neuroscience, Journal of Comparative Psychology, Journal of Experimental Psychology, Journal of Experimental Child Psychology, Journal of Human Evolution, Journal of Theoretical Biology, Neuroscience & Biobehavioral Reviews, Philosophy & Biology, Philosophical Transactions of the Royal Society, Psychological Review, Trends in Cognitive Sciences, Zoological Journal of the Linnean Society, Zoology.

### *Extracurricular*

**Music:** I compose songs and play guitar (mainly jazz, Bossa Nova, and folk), piano and percussion; I played in a rock band in college, and then in a salsa band called "Salsa Manteca" for during graduate school. I studied traditional Ghanaian drumming for three years with Master Martin Obeng. **Art:** In addition to preparing the art for my scientific publications (mostly of animals and comparative anatomy), I enjoy figure drawing, landscapes and portraiture (mixed media, oil and watercolor painting). I also enjoy travel, food, and fine wine, as well as rollerblading, Ultimate frisbee, hiking, mountain biking, sailing and canoeing when I can find the time.

*\*About the name:* My parents named me after my great-great-great-grandfather, General William Tecumseh Sherman (1820-1891), who was in turn named after the great Shawnee chief and general Tecumseh (1768-1813). "Tecumseh" has always been used as my given name (or "Cump", but never William), as was the case for my father and grandfather, and for General Sherman himself.