

Edward H. Hagen
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Research Interests

I specialize in evolutionary medicine, with a particular focus on aspects of mental health such as drug addiction, depression, and suicide. I also explore the impact of family size and other social variables on the physical growth and development of children in communities with subsistence economies.

Because much of my work in evolutionary medicine uses strategic signaling theory, I also have projects exploring the evolution of music as a credible signal of coalition quality and gossip as, in part, a means to transmit reputation-relevant information. I have also recently begun testing evolutionary models of leadership, as part of my more general interest in the evolution of human social organization. Finally, I have several papers on the conceptual foundations of evolutionary biology and their application to human cognition and behavior.

Education

- 1999 Ph.D. in Anthropology, University of California, Santa Barbara.
1994 M.A. in Anthropology, University of California, Santa Barbara.
1985 B.A. in Mathematics with Physics emphasis, University of California, Berkeley.

Academic positions

- 2011-Present Associate Professor, Washington State University
2007-2010 Assistant Professor, Washington State University
2001-2007 Research Scientist, Institute for Theoretical Biology, Berlin
2000-2001 Lecturer, Department of Anthropology, UC Santa Barbara
1989-1991 Researcher, Department of Chemistry, UC Berkeley

Publications (all peer-reviewed except where marked with an *)

Under review

Hagen EH and Rosenström T (under review) Explaining the sex difference in depression with a unified bargaining model of anger and depression. *Evolutionary Medicine and Public Health*.

Hagen EH, Garfield M, Sullivan RJ (under review) The low prevalence of female smoking in the developing world: gender inequality or fetal protection? *Evolutionary Medicine and Public Health*.

Rosenström, T, Fawcett, T. W., Higginson, A. D., Metsä-Simola, N., **Hagen, E. H.**, Houston, A. I., Martikainen, P. (under review) Using register data on antidepressant medication during divorce for computational comparison of explanatory models of depression.

Sullivan RJ and Hagen EH (under review) Plant toxins in human evolution: Constraints, contingencies, and co-adaptation. *Evolutionary Anthropology*.

Forthcoming

Meehan CL, Hagen EH, and Hewlett BS (forthcoming) *Persistence and Change in Infant Care among Aka Foragers*.

Hagen EH and Sullivan RJ (forthcoming) Drug use and addiction as an evolutionary paradox. *Routledge Handbook of Philosophy and Science of Addiction*.

In press

Hagen EH (in press) Evolutionary psychology and its critics. In *The evolutionary psychology handbook*, 2nd edition. D. Buss, ed. Wiley.

Roulette CJ, Hagen EH and Hewlett BS (in press) A biocultural investigation of gender differences in tobacco use in an egalitarian hunter-gatherer population. *Human Nature*.

Syme KL, Garfield ZH and Hagen EH (in press) Testing the bargaining vs. inclusive fitness models of suicidal behavior against the ethnographic record. *Evolution and Human Behavior*.

2015

Placek CD and Hagen EH (2015) Fetal protection: the roles of social learning and innate food aversions in south India. *Human Nature*, 26 (3), 255-276.

Roulette CJ, Kazanji M, Breurec S, Hagen EH (2015) High prevalence of cannabis use among Aka foragers of the Congo Basin, and its possible relationship to helminthiasis. *American Journal of Human Biology*.

Sullivan RJ and Hagen EH (2015) Passive vulnerability or active agency? An evolutionarily ecological perspective of human drug use. In *Impact of Addictive Substances and Behaviours on Individual and Societal Well-being*. Peter Anderson, Jürgen Rehm, and Robin Room, eds. Oxford University Press.

2014

Roulette CJ, Mann H, Kemp B, Remiker M, Wilcox J, Hewlett B, Kazanji M, Breurec S, Monchy D, Sullivan RJ, Hagen EH (2014; Hagen is corresponding author) Tobacco vs. helminths in Congo basin hunter-gatherers: self medication in humans? *Evolution and Human Behavior*, 35, 397–407.

2013

Hagen EH, Roulette CJ, and Sullivan RJ (2013) Explaining human recreational use of 'pesticides': The neurotoxin regulation model of substance use vs. the hijack model and implications for age and sex differences in drug consumption. *Frontiers in Psychiatry*, 4.

Placek CD and Hagen EH (2013) A test of three hypotheses of pica and amylophagy among pregnant women in Tamil Nadu, India. *American Journal of Human Biology*, 25, 803-813.

Walker R.S., S. Beckerman, M.V. Flinn, M. Gurven, C.R. von Rueden, K.L. Kramer, R.D. Greaves, L. Córdoba, D. Villar, E.H. Hagen, J.M. Koster, L. Sugiyama, T.E. Hunter, K. Hill (2013) Living with kin in lowland horticultural societies. *Current Anthropology*, 54, 96-103.

2012

Hagen EH, Chater N, Gallistel RC, Houston A, Kacelnik A, Kalenscher T, Nettle D, Oppenheimer D, and Stephens DW (2012). Decision-making: What can evolution do for us? In *Evolution and the Mechanisms of Decision Making: Toward a Darwinian Decision Theory*. P. Hammerstein and J. R. Stevens, eds. MIT Press.

2011

Hagen, EH (2011) Evolutionary Theories of Depression: A Critical Review. *Canadian Journal of Psychiatry*, 56, 716–726.

2010

Hess NH, Helfrecht C, Hagen EH, Sell A and Hewlett BS (2010). Interpersonal aggression among Aka hunter-gatherers of the Central African Republic: Assessing the effects of sex, strength, and anger. *Human Nature*, 21, 330-354.

Hagen EH, Hammerstein P, and Hess, NH (2010) Strategic aspects of communication and language. In S. Nolfi and M. Mirolli, editors, *Evolution of Communication and Language in Embodied and Situated Agents*, pages 55-65. Springer Verlag.

2009

Hagen EH and Barrett HC (2009) Cooperative breeding and adolescent siblings: Evidence for the ecological constraints model? *Current Anthropology*, 50, 727-737.

Hagen EH, Sullivan RJ, Schmidt R, Morris G, Kempter R, Hammerstein P (2009) The neurobiology of toxin avoidance and the paradox of drug reward. *Neuroscience*, 160, 69–84.

Hagen EH and Hammerstein P (2009) Did Neanderthals and other early humans sing? Seeking the biological roots of music in the loud calls of primates, lions, hyenas, and wolves. *Musicae Scientiae*, 3-6, 291-320.

2008

Hagen EH, Watson P, and Hammerstein, P (2008) Gestures of despair and hope: A view on deliberate self-harm from economics and evolutionary biology. *Biological Theory*, 3, 123-138.

Hagen EH (2008) Non-bizarre delusions as strategic deception. In *Medicine and Evolution: Current applications, future prospects*, pp. 179-213. Sarah Elton & Paul O'Higgins, eds. Taylor and Francis.

Sullivan R, Hagen EH, and Hammerstein P (2008) The paradox of drug reward in human evolution. *Proceedings of the Royal Society of London, B*, 275, 1231–1241.

Quinlan, RJ and Hagen, EH (2008). New Genealogy: It's Not Just for Kinship Anymore. *Field Methods*, 20, 129-154.

2007

Hagen EH and Barrett HC (2007) Perinatal sadness among Shuar women: Support for an evolutionary theory of 'psychic pain'. *Medical Anthropology Quarterly*, 21, 22-40.

*Hagen EH and Symons D (2007) Natural psychology. In *The Evolution of Mind: Fundamental Questions and Controversies*, Gangestad S and Simpson J, eds. Guilford Press.

Madrigal L, Ware B, Hagen EH, Blell M, Ruiz E and Otárola F (2007) The East-Indian diaspora in Costa Rica: Inbreeding avoidance, marriage patterns and cultural survival. *American Anthropologist*, 109, 330–337.

2006

Hagen EH, Barrett HC and Price ME (2006) Do human parents face a quantity-quality tradeoff?: Evidence from a Shuar community. *American Journal of Physical Anthropology*, 130, 405-418.

Hagen EH and Hammerstein P (2006) Game theory and human evolution: A critique of some recent interpretations of experimental games. *Theoretical Population Biology*.

Hagen EH, Price ME and Tooby J (2006) Did Napoleon Chagnon's Research Methods and Publications Harm the Yanomami Indians? No. In *Taking Sides: Clashing Views in Cultural Anthropology*. Robert L. Welsch, Kirk M. Endicott, eds. McGraw-Hill.

Hammerstein P, Hagen EH, Herz AVM and Herzel H (2006) Robustness: A key to evolutionary design. *Biological Theory*, 1, 90–93.

Hammerstein P, Hagen EH, and Laubichler M (2006) The strategic view of biological agents. *Biological Theory*, 1, 191-194.

Hess NH and Hagen EH (2006) Sex differences in informational aggression: Psychological evidence from young adults. *Evolution and Human Behavior*, 27, 231–245.

Hess NH and Hagen EH (2006) Psychological adaptations for assessing gossip believability. *Human Nature*, 17, 337–354.

2005

Hagen EH and Hammerstein P (2005) Evolutionary biology and the strategic view of ontogeny: Genetic strategies provide robustness and flexibility in the life course. *Research in Human Development* 2:87-101.

Hagen EH (2005) Controversies surrounding evolutionary psychology. In *The Evolutionary Psychology Handbook*, D. Buss, ed., pp. 145-173. Wiley.

Hammerstein P and Hagen EH (2005) The second wave of evolutionary economics in biology. *Trends in Ecology and Evolution*, 20, 604-609.

Laubichler M, Hammerstein P, and Hagen EH (2005) The strategic approach in evolutionary biology. *Biology and Philosophy*, 20, 1041-1050.

*Walker PL and Hagen EH (2005) *Human Evolution: A Multimedia Guide to the Fossil Record*, 4th Edition. New York: W. W. Norton and Company, Inc.

2004-1994

Hagen EH (2003) The bargaining model of depression. In *Genetic and Cultural Evolution of Cooperation*, pp. 95-123. P. Hammerstein, ed. MIT Press.

Hagen EH and Bryant GA (2003) Music and dance as a coalition signaling system. *Human Nature* 14:21-51.

McElreath R, Clutton-Brock TH, Fehr E, Fessler DMT, Hagen EH, Hammerstein P, Kosfeld M, Milinski M, Silk J, Tooby J and Wilson MI (2003) The Role of Cognition and Emotion in Cooperation. In *Genetic and Cultural Evolution of Cooperation*, P. Hammerstein, ed.

Sell A, Hagen EH, Cosmides L and Tooby J (2003) Evolutionary theory: Implications for Cognitive Science. In *Encyclopedia of Cognitive Science* Nature Publishing Group, v. 2, pp. 47-53. Macmillan Publishers Ltd.

Hagen EH (2002) Depression as bargaining: the case postpartum. *Evolution and Human Behavior*. 23:323–336.

Sullivan RJ and Hagen EH (2002) Psychotropic substance-seeking: evolutionary pathology or adaptation? *Addiction*. 97:389-400.

Hagen EH, Hames R, Craig N, Lauer M, and Price ME (2001) Parental investment and offspring health in a Yanomamö village. *Journal of Biosocial Science*. 33:503-528.

Hagen EH (1999) The functions of postpartum depression. *Evolution and Human Behavior*. 20:325-359.

Novak BM, Hagen EH, Hoff S, Viswanathan A (1994) Synthesis and Photochemistry of Sulfonium Ion Polymers-Arylated and Alkylated Poly(P-Phenylene Sulfide) Derivatives. *Macromolecules*. 27 (7):1985-1986.

Commentaries, reviews, and letters

Sullivan, RJ and Hagen, EH (2011) But is it evolution...? Comment on Drugs as instruments: A new framework for non-addictive psychoactive drug use. *Behavioral and Brain Sciences*, 34, 322-323.

Hagen EH (2009) Human natures – A review of The 10,000 year explosion. *Evolution and Human Behavior*, 30, 453–455.

Hagen EH (2005) Postpartum depression and infant crying. *Behavioral and Brain Sciences*.

Hagen EH and Hammerstein P (2005) Comment on Signaling theory, strategic interaction, and symbolic capital. *Current Anthropology*, 46:241-242.

Hagen EH and Thomson JA (2004) Social navigation hypothesis of depression revisited. *Journal of Affective Disorders* 83:285-286.

Hagen EH (2003) Special design's centuries of success. *Behavioral and Brain Sciences*.

Hagen EH (2003) Comment on Genes and Cultures: What Creates Our Behavioral Phenome? P. Ehrlich and M. Feldman, *Current Anthropology* 44:96-97.

Hagen EH and Hess NC (2000) Sweet Savage Love: FA, BO, and SES in the EEA. *Behavioral and Brain Sciences*. 23:604-605.

Hammerstein P and Hagen EH (2006) Evolutionary genetics: Broken cogs or strategic agents? Review of *Genes in Conflict* by A. Burt and R. Trivers. *Science*, 312, 530.

Hess NC and Hagen EH (2001) Review of *Mean Genes*. *Politics and the Life Sciences*.

Schmidt, R., Morris, G., Hagen, E. H., Sullivan, R. J., Hammerstein, P., and Kempter, R. (2009). The dopamine puzzle. *Proceedings of the National Academy of Sciences*, 106(27):E75.

Software and online publications

Descent. Software for computing coefficients of relatedness.

itb.biologie.hu-berlin.de/~hagen/Descent/

Human Evolution: The fossil evidence in 3D

www.anth.ucsb.edu/projects/human/

The Evolutionary Psychology FAQ www.anth.ucsb.edu/projects/human/evpsychfaq.html

Grants, fellowships and awards

Revise and resubmit

NIH NIDA Fellowship: Substance Abuse Among Central African Hunter Gatherers. \$107,908

NIH NIDA: Drug Use as a Possible Example of Human Pharmacophagy: Tobacco Consumption and Helminth Infections Among the Aka and Ngandu. \$371,770

Awarded

- 2015 Margo Wilson award. Best paper in Evolution and Human Behavior (Roulette et al. 2014). Human Behavior and Evolution Society. \$1500.
- 2014 Testing multi-disciplinary theories of suicide using a cross-cultural database. Hagen PI. NSF BCS-1355469. \$61,395. (Highest ranking proposal in this round)
- 2014 WSU Meyer Award. Behavioral immune strategies in pregnancy. \$5000.
- 2014 WSUV Faculty Mini-Grant. Behavioral immune strategies in pregnancy. \$5000.
- 2012 Do nicotine and THC consumption reduce the risk of helminth reinfection in central African foragers? WSU Alcohol and Drug Research Program Fellowship to student Casey Roulette. Hagen PI. \$10,699.
- 2012 Professional Development Award. WSU College of Liberal Arts. \$5000.
- 2009 Cultural Models, Patterns of Smoking, and Acculturation Among Aka Foragers and their Ngandu Farming Neighbors. WSU Alcohol and Drug Research Program Fellowship to student Casey Roulette. \$19,764 (Co-PI with Barry Hewlett).
- 2009 Pilot grant. Tobacco use and helminth load among Aka foragers. WSU Alcohol and Drug Research Program. \$35,000 (Co-PI with Barry Hewlett).
- 2008 Undergraduate Research Fellowship to Casey Roulette from WSU Alcohol and Drug Research Program (Co-PI with Barry Hewlett). \$5000.
- 2004-2007 ECAGents. Integrated Project European Commission 6th Framework Programme for Research, Technology and Demonstration. € 249,000 (~ \$306,600). With Peter Hammerstein.
- 2002-2005 Symbiosis component of Robustness, modularity and evolutionary design of living systems. Sonderforschungsbereich 618 "Theoretische Biologie." Deutsch Forschungsgemeinschaft. € 150,000 (~ \$184,700). With Peter Hammerstein.
- 1999 Best Poster Award. Human Behavior and Evolution Society, Salt Lake City (\$500).
- 1998 Service/Spaulding Fellowship. University of California, Santa Barbara (\$3000 + fees).
- 1997 Spaulding Fellowship. University of California, Santa Barbara (\$3000 + fees).
- 1997 Aaron T. Beck Award, ASCAP Society (\$1000).
- 1996 Elman Service Fellowship. University of California, Santa Barbara (\$3000).
- 1995 New Investigator Award. Human Behavior and Evolution Society, Santa Barbara (\$300).
- 1995 Doctoral Candidacy Fellowship. University of California, Santa Barbara.
- 1993-1999 Graduate Fee Fellowship. University of California, Santa Barbara (fees paid).

Invited talks

- 2015 *Recreational substance use: does drug toxicity explain more than drug reward?* Distinguished Speakers Colloquium Series. University of Miami.
- 2015 *Recreational substance use: does drug toxicity explain more than drug reward?* Symposium on Evolutionary Medicine. Münster Graduate School of Evolution, Westfälische Wilhelms-Universität Münster. **Keynote.**

- 2013 *Explaining human recreational use of 'pesticides': The neurotoxin regulation model of substance use vs. the hijack model and implications for age and sex differences in drug consumption.* Seminar on Evolution and Human Health and Behavior. University of Helsinki.
- 2013 Plenary: *The toxin regulation model of substance use: An evolutionary alternative to the mainstream reward model.* Northwest Evolution, Ecology, And Human Behavior Symposium, Boise, Idaho.
- 2013 *Suicide in cross-cultural perspective.* Symposium on Violence and Mental Health, University of Washington.
- 2012 *Tobacco vs. helminths in Aka pygmies.* Institut Pasteur, Bangui, Central African Republic.
- 2011 *Drugs are bad...for pathogens: testing an alternative to the reward model of tobacco use and its implications for smoking cessation.* First Biannual international Evolution and Cancer Conference, UC San Francisco, Mission Bay Campus.
- 2011 *Drugs are bad...for pathogens. Testing an alternative to the "hijack" model of recreational drug use.* Center for Behavior, Evolution, and Culture, UCLA.
- 2009 *Gestures of despair and hope: A view on suicidality and deliberate self-harm from economics and evolutionary biology.* International Symposium Of Evolutionary Psychology. Natal, Brazil. [Unable to give talk due to visa problem]
- 2008 *Evolutionary psychology: The engineered mind.* American Humanist Association, Portland, OR.
- 2008 *Plant neurotoxins and human evolution.* University of Oregon, Eugene.
- 2007 *Plant neurotoxins and human evolution.* IPEM series. Washington State University, Pullman.
- 2007 *The bargaining model of depression, suicidality, and deliberate self-harm.* Center for Cognitive and Decision Sciences, Department of Psychology, University of Basel.
- 2007 *Plant neurotoxins and human evolution.* Anthropology Club, WSUV.
- 2006 *The anthropology of suicidality.* Medicine and Evolution meeting, Hull York School of Medicine, UK.
- 2006 *Game theory and human evolution: A critique of some recent interpretations of experimental games.* The Moral Brain Conference, Ghent University, Belgium; Workshop on Social Institutions and Behavior, University of Amsterdam; Seminar Series, Max Planck Institute for Evolutionary Anthropology, Leipzig.

- 2006 *Depression as bargaining: the case postpartum*. EvoS Seminar Series, SUNY Binghamton.
- 2006 *The second wave of evolutionary economics in biology* (presented by Peter Hammerstein). Symposium on the Nature of Human Cooperation. Université de Lausanne.
- 2005 *Depression and suicidality: Illnesses or adaptations?* Autumn School on Evolutionary Medicine: An Emerging Synthesis, Berlin.
- 2005 *The anthropology of conflict resolution*. Wissenschaftskolleg zu Berlin (Institute for Advanced Study).
- 2004 *Suicidality as signaling: Cross-cultural evidence from the HRAF*. Conference on Embodied and Communicating Agents. Institute for Cognitive Sciences and Technologies, Rome.
- 2004 *Evolutionary approaches to cognition*. Ghent University, Belgium.
- 2003 *The evolution of music*. Catholic University Leuven, Belgium.
- 2003 *The anthropology of war: Ethnographic and archaeological evidence*. Max Planck Institute for Human Development, Berlin.
- 2003 *Sex differences in competition and aggression*. Symposium on Robustness and Variation of Sexual Differentiation. Humboldt University, Berlin.
- 2003 *Computational approaches to kinship*. Max Planck Institute for Social Anthropology, Halle/Saale.
- 2003 *Controversies in evolutionary psychology*. Max Planck Institute for Human Development, Berlin.
- 2002 *Father status, family size, and intra-village variation in nutrition and growth among the Shuar*. Colloquium on Global Health and the Environment. University of Iowa.
- 2002 *The Darkness in El Dorado controversy and its implications for global health research*. Colloquium on Global Health and the Environment. University of Iowa.
- 2002 *What happens when cooperation fails?* Dahlem Conference on The Genetic and Cultural Evolution of Cooperation. Berlin, Germany.
- 2000 *Depression as bargaining*. Innovationskolleg theoretische Biologie. Berlin, Germany.
- 2000 *Postpartum depression: Illness or adaptation?* Postpartum Dysphoria and Depression Symposium. Reimers-Stiftung/Max-Planck Institute for Behavioral Physiology. Bad Homburg, Germany.
- 2000 *Depression as bargaining*. Behavior, Evolution and Culture Symposium. University of California, Los Angeles.
- 2000 *Depression and the evolution of cooperation*. German American Frontiers of Social and Behavioral Sciences, Second Annual Symposium. Social Science Research Council. Stone Mountain, Georgia.

- 2000 *Social constraints on reproductive decision-making and postpartum depression.* Program in Developmental and Evolutionary Psychology, and the Interdisciplinary Program in Human Development, Department of Psychology, UCSB.
- 1995 *Simulating 3D modeling with Limited Computational Resources.* Multimedia Developer's Conference. University of California, Santa Barbara.

Conference presentations

- 2015 *Testing the costly signaling and inclusive fitness models of suicidal behavior against the ethnographic record.* Human Behavior and Evolution Society, Columbia, Missouri.
- 2015 *Female smoking prevalence and the fertility transition.* American Association of Physical Anthropologists Annual meeting, St Louis.
- 2015 *Two evolutionary models of suicide stand up against the ethnographic record.* American Association of Physical Anthropologists Annual meeting, St Louis. Presented by Kristen Syme.
- 2015 *Cannabis vs helminth infection: Cannabis use as chemoprophylaxis against intestinal helminth infection among Aka forest-foragers of the Central African Republic.* American Association of Physical Anthropologists Annual meeting, St Louis. Presented by Casey Roulette.
- 2015 *Leadership and collective action in the HRAF probability sample.* American Association of Physical Anthropologists Annual meeting, St Louis. Presented by Zach Garfield.
- 2015 *Recreational drug use: does drug toxicity explain more than drug reward?* International Society of Evolutionary Medicine and Public Health Inaugural Meeting, Tempe AZ.
- 2015 *Recreational drug use versus intestinal helminth infection among Congo Basin Foragers.* International Society of Evolutionary Medicine and Public Health Inaugural Meeting, Tempe AZ. Presented by Casey Roulette.
- 2015 *Testing two strategic models of suicide against the ethnographic record.* International Society of Evolutionary Medicine and Public Health Inaugural Meeting, Tempe AZ. Presented by Kristen Syme.
- 2015 *Fetal protection: The roles of social learning and innate food aversions in South India.* International Society of Evolutionary Medicine and Public Health Inaugural Meeting, Tempe AZ. Presented by Caity Placek.
- 2015 *Female smoking prevalence and the fertility transition.* International Society of Evolutionary Medicine and Public Health Inaugural Meeting, Tempe AZ. Presented by Melissa Garfield.

- 2014 *Suicide in 57 Cultures*. KL Syme and EH Hagen. Society for Anthropological Sciences Annual Meeting, Albuquerque, New Mexico.
- 2014 *Drug toxicity, not reward, explains large age and sex differences in substance use*. American Association of Physical Anthropologists Annual meeting, Calgary.
- 2014 *Testing theories of suicide in 245 cultures*. KL Syme, EH Hagen. American Association of Physical Anthropologists Annual meeting, Calgary.
- 2014 *A test of three hypotheses of pica and amylophagy among pregnant women in Tamil Nadu, India*. CD Placek, EH Hagen. American Association of Physical Anthropologists Annual meeting, Calgary.
- 2014 *Age and sex differences in substance use are explained by drug toxicity, not reward*. Northwest Evolution, Ecology, And Human Behavior Symposium, Boise, Idaho.
- 2013 *Sugar and ice and everything nice: an evolutionary approach to age and sex differences in substance use*. Human Behavior and Evolution Society Annual Meeting, Miami, Florida.
- 2012 *Drugs are bad...for pathogens Tobacco and cannabis vs. helminths in Central African foragers*. Human Behavior and Evolution Society Annual Meeting, Albuquerque, NM.
- 2012 *Nicotine: candy or cure? A longitudinal study of smoking vs helminth reinfection among African hunter-gatherers*. American Association of Physical Anthropologists Annual meeting, Portland, OR.
- 2012 *Tobacco, cannabis, parasites, and life history strategies in an African population of hunter-gatherers*. American Association of Physical Anthropologists Annual meeting. Portland, OR. Presented by Casey Roulette.
- 2012 *The highly polymorphic human cytochrome P450 (CYP) 2A6 gene: examining diversity and nicotine metabolism in a central African foraging population*. American Association of Physical Anthropologists Annual meeting, Portland, OR. Presented by Hayley Mann.
- 2012 *The impact of reputation on resource allocation in humans*. American Association of Physical Anthropologists Annual meeting, Portland, OR. Presented by Nicole Hess.
- 2012 *Nicotine — candy or cure? Testing an evolutionary alternative to the reward model of psychoactive substance use*. Invited Symposium, Association for Psychological Science Annual Meeting, Chicago, IL.
- 2011 *Does treating intestinal helminth infections reduce smoking behavior? Results of a double-blind, placebo-controlled, randomized control trial among Central African foragers*. American Association of Physical Anthropologists Annual meeting.

- 2010 *Recreational drug use as potential protection against pathogens: Smokers among Central African foragers have fewer worms than non-smokers.* International Conference on Congo Basin Hunter-Gatherers, Montpellier, France. Presented by Casey Roulette.
- 2010 *Did Neanderthals and other early humans sing? Seeking the biological roots of music in the territorial advertisements of primates, lions, hyenas, and wolves.* International Conference of Music Perception and Cognition, Seattle, WA.
- 2010 *Bimodal distribution of aggression norms in three populations: Evidence for hawks and doves?* Human Behavior and Evolution Society Annual Meeting, Eugene, OR.
- 2010 *Recreational drug use as potential protection against pathogens: Smokers among Central African foragers have fewer worms than non-smokers.* American Association of Physical Anthropologists Annual meeting, New Mexico (presented by Roger Sullivan)
- 2009 *Drug use as potential protection against pathogens: tobacco consumption vs. helminth load in Aka foragers.* Human Behavior and Evolution Annual Meeting, Fullerton, CA.
- 2009 *Plant neurotoxins and brain development: Implications for encephalization in Homo.* American Association of Physical Anthropologists Annual meeting, Chicago, IL.
- 2009 *Anger and aggression among Aka hunter-gatherers.* The Evolution of Human Aggression: Lessons for Today's Conflicts. Barbara L. and Norman C. Tanner Center for Nonviolent Human Rights Advocacy, University of Utah, Salt Lake. With C. Helfrecht, N. Hess, and A. Sell.
- 2008 *Human counter-exploitation of plant neurotoxins: towards resolving the paradox of drug reward.* Human Behavior and Evolution Annual Meeting, Kyoto Japan.
- 2008 *Women's coalitional aggression: the influence of allies and competition on gossiping.* Human Behavior and Evolution Annual Meeting, Kyoto Japan. Presented by Nicole Hess.
- 2008 *The impact of adolescent Shuar women on the growth and development of siblings.* The Society for Anthropological Sciences Annual Meeting, New Orleans.
- 2007 *Human counter-exploitation of plant neurotoxins: Towards resolving the paradox of drug reward.* American Association of Physical Anthropologists Annual meeting, Philadelphia, PA.
- 2007 *Revealing the paradox of drug reward in human evolution.* American Association of Physical Anthropologists Annual meeting, Philadelphia, PA. Presented by Roger Sullivan.

- 2007 *Cytochrome P450 xenobiotic metabolizing enzymes and human evolution*. The Human Biology Association Annual Meeting, Philadelphia, PA.
- 2007 *Comparative Reduction in Cytochrome P450 Genes in Homo sapiens: Implications for Hominid Diet Shift and Encephalization*. Human Biology Association Annual Meeting, Philadelphia, PA. (presented by Roger Sullivan).
- 2006 *Suicidality as bargaining: the cross cultural evidence*. American Anthropological Association Annual meeting, San Jose CA.
- 2005 *The kinship structure of a Yanomamö village*. Human Behavior and Evolution Society Annual Conference, Austin, Texas.
- 2004 *Suicidality as a bargaining strategy*. Human Behavior and Evolution Society Annual Conference, Berlin.
- 2004 *Captain Robert FitzRoy's Darwinian Depression* (with Thomson, Watson, and Andrews). Human Behavior and Evolution Society Annual Conference, Berlin.
- 2004 *Evolved sex differences in aggression types: inclinations towards physical vs. reputational attacks* (with Hess). Human Behavior and Evolution Society Annual Conference, Berlin.
- 2004 *Megadontia and bipedalism: Did habitual bipedalism evolve in early hominids to reduce the energetic costs of increasing head weight?* American Association of Physical Anthropologists 73rd Annual Meeting. Tampa, Florida.
- 2003 *Applying the socioecological model of primate social organization to human females*. Göttinger Freiländertage conference on Cooperation in Primates and Humans: Mechanisms and Evolution. German Primate Center. (With Nicole Hess)
- 2002 *The impact of family size on nutrition and growth in a Shuar village: Evidence for a quantity-quality tradeoff*. American Association of Physical Anthropologists 71st annual meeting. Buffalo, New York.
- 2001 *Social correlates of health and nutrition in a Shuar village*. Human Behavior and Evolution Society Annual Conference, London, England.
- 2001 *Informational warfare: Female coalitions and gossip* (with NC Hess). Human Behavior and Evolution Society Annual Conference, London, England.
- 2000 *Social constraints on reproductive decision-making and postpartum depression*. Human Behavior and Evolution Society 12th Annual Conference. Amherst, Massachusetts. (Poster)
- 2000 *Maternal and child health in a Yanomamö village*. Session on maternal mortality in bio-archaeological perspective. American Association of Physical Anthropologists 69th annual meeting. San Antonio, Texas.
- 1999 *Parental investment and child health in a Yanomamö village*. Human Behavior and Evolution Society 11th Annual Conference. University of Utah, Salt Lake City.
- 1998 *Reproductive Decision-making and Postpartum Depression*. 97th Annual Meeting of the American Anthropological Association. Philadelphia, Pennsylvania.

- 1998 *The Functions of Postpartum Depression and the Implications for General Depression*. Human Behavior and Evolution Society 10th Annual Conference. University of California, Davis.
- 1996 *Postpartum depression as an adaptation to paternal and kin exploitation*. Human Behavior and Evolution Society 8th Annual Conference. Northwestern University, Illinois.
- 1995 *Delusional and Somatoform Disorders as Possible Examples of Intraspecific Mimicry in Humans*. Human Behavior and Evolution Society 7th Annual Conference. University of California, Santa Barbara.
- 1994 *Decoding Microwear: A Topographic Approach*. Department of Anthropology, University of California, Santa Barbara.

Fieldwork and research

- 2012 Bagandou, Central African Republic (Aka, Ngandu)
- 2010 Bagandou, Central African Republic (Aka, Ngandu)
- 2008 Bagandou, Central African Republic (Aka, Ngandu)
- 2001 Chinimpi, Ecuador (Shuar)
- 1998, 1999 Cejal, Upper Orinoco, Venezuela (Yanomamö)
- 1995 Neuropsychiatric Institute, University of California, Los Angeles (locked ward)
- 1992-1996 Research Assistant, University of California, Santa Barbara, Anthropology Department.

Teaching

- 2007-Present Washington State University. Courses: Introduction to biological anthropology; Sex, evolution, and human nature; Current trends in biological anthropology (graduate seminar).
- 2001-2007 Lecturer, Evolutionary approaches to cognition, Humboldt University, Berlin
- 2003, 2005 Lecturer, International Max Planck Research School on The Life Span: Evolutionary and Developmental Dynamics (LIFE)
- 2000 Instructor, Introduction to Biosocial Anthropology, Dept. Of Anthropology, UCSB
- 2000 Instructor, Advanced Evolutionary Psychology, UCSB
- 2000 Instructor, Law and Warfare, UCSB
- 1999 Instructor, Introduction to Physical Anthropology, UCSB
- 1993-1996 Head Teaching Assistant, University of California, Santa Barbara, Anthropology Department

Conference and symposium organization

- 2001-Present American Association of Physical Anthropologists Annual Meetings. Online registration system.

- 2010 Human Behavior and Evolution Society Annual Meeting, Eugene OR. Program Committee.
- 2005 Autumn School on Evolutionary Medicine: An Emerging Synthesis. Institute for Theoretical Biology, Berlin.
- 2005 LIFE Program, evolutionary psychology segment, Max Planck Institute for Human Development.
- 2004 Human Behavior and Evolution Society Annual Meeting, Berlin. Program Committee.
- 2003 Symposium on Robustness and Variation of Sexual Differentiation. Humboldt University, Berlin, November. Program committee.
- 1999 Host & Organizer for the visit of Jaime Turon, Alcalde del Alto Orinoco, Venezuela. Turon, the first elected indigenous representative of the Yanomamö, Ye'kwana, and other Native American Amazonian groups, spoke at UCSB, June.

Patent

- 1991 Novak BM, Hagen EH and Viswanathan A. *Photogenerated conducting organic polymers* (patent number 5,376,502)

Professional service

External Faculty

- 2011-Present Center for Evolution and Cancer, UCSF

Medical aid

- 1999-2012 With colleagues, I worked with Direct Relief International to obtain \$35,000 in medical supplies to donate to Yanomamö and Ye'kwana villages during a 1999 trip to Venezuela, as well as substantial medical supplies and nutritional supplements for a large Shuar village in Ecuador in 2001. In addition, colleagues and I regularly stock the Bagandou, CAR local health clinic with medications and supplies.

Museum display

- 2004 Peabody Museum, Yale University: Human Evolution multimedia display.

Chief Web site designer

American Association of Physical Anthropology (www.physanth.org)
 AAPA Annual Conference registration system
 WSUV Department of Anthropology website (anthro.vancouver.wsu.edu)
 Global Health Project online training modules
 Center for Evolutionary Psychology (www.psych.ucsb.edu/research/cep)

Other skills

Statistics and related software (e.g., R, SPSS), including Monte Carlo and bootstrapping techniques; computer and web programming (e.g., C, Python); social network analysis; digital image processing; forensic video analysis.

References

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