3UC







The Second Annual 3UC Evolutionary Behavioral Sciences Conference

California Polytechnic State University, San Luis Obispo

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Talks and special interest groups

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- Dominance
- Personality
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Participating faculty



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Participating undergraduates, predocs and postdocs

March 15-16 2008

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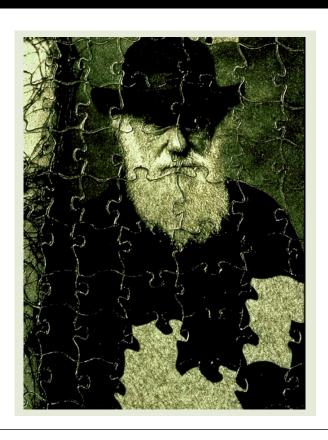


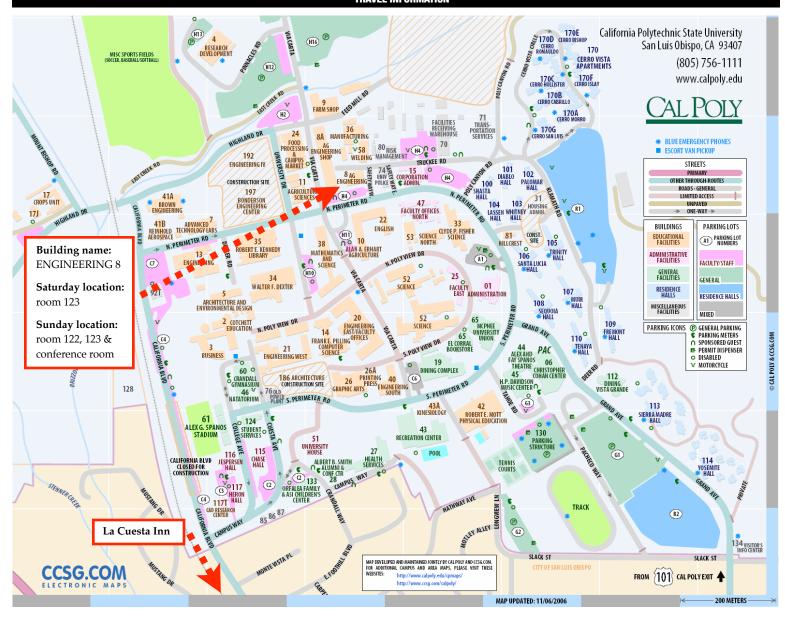
Aims and scope

The application of theories and methods derived from evolutionary biology and ecology to the study of human behavior is a rapidly expanding enterprise — one that holds great promise for a true consilience of knowledge.

Collectively, UCD, UCLA, and UCSB are home to the world's largest community of scholars working in this area. While sharing both intellectual and geographical propinquity, these groups are also characterized by a diversity of approaches and areas of expertise.

This second annual meeting brings together scholars from these three campuses in an effort to advance the field through discussion of points of convergence and divergence across differing perspectives, and facilitate the establishment of collaborations that leverage complementary skills and approaches.





Directions to Cal Poly

Traveling South on Highway 101:

As you approach San Luis Obispo, exit the freeway at Monterey St. (the first exit in SLO). Make a right turn, then an immediate left turn onto the frontage road (you will be going the same direction you were on the freeway). Go approximately 3 blocks to Grand Ave, turn right (going uphill) and go about 1/4 mile to the south entrance of the campus.

Traveling North on Highway 101:

Go through much of San Luis Obispo and exit at the Grand Avenue/Cal Poly exit. Turn left onto Grand Avenue and go uphill approximately 1/4 mile to the south entrance of the campus.

Parking

From the hotel, you will go right on Monterey, Right on Grand, Right on N. Perimeter Road, Right on Safety Way West (the entrance right after the police

station). There is a parking lot (H4) right there in front of Building 8.

Directions to the Hotel

Traveling South on Highway 101:

Take the Monterey St. exit off of the freeway. The exit will be the first San Luis Obispo city exit and will be on your right. At the top of the ramp you will come to a stop. Take a left and cross over the freeway and onto Monterey St. Proceed approx. 500 yards until you reach the hotel. The La Cuesta Inn will be on your right at 2074 Monterey St.

Traveling North on Highway 101:

Take the Monterey St. exit off of the freeway. The exit will be the last San Luis Obispo city exit - and will be on your right. The off ramp gently circles you onto Monterey St. where you will proceed approx. 500 yards until you reach the hotel. The La Cuesta Inn will be on your right at 2074 Monterey St.



Conference schedule

SA 9.00 am - 10.20 am

Talk, Richard McElreath, room 123 Evolutionary models of personality

SA 10.20 am - 10.40 am

Coffee break

SA 10.40 am - 11.20 am

Talk, Carolyn Hodges, room 123 Perceptions of dominance and attractiveness in male voices suggest functional specificity in signal attention

SA 11.20 am - 12.00 pm

Talk, Susan Glover, room 123

Propaganda, public information, and prospecting: Explaining sub-optimal central place foraging in a late 19th Century Colorado silver rush

SA 12.00 pm - 1.30 pm

Lunch break

SA 1.30 pm - 2.50 pm

Talk, Clark Barrett, room 123 Reconciling domain specificity and cultural transmission

SA 2.50 pm - 3.10 pm

Coffee break

SA 3.10 pm - 3.50 pm

Talk, Karthik Panchanathan, room 123 The evolution of a prestige-bias in cultural transmission

SA 3.50 pm - 4.10 pm

Coffee break

SA 4.10 pm - 5.30 pm

Talk, Tamsin German, room 123 Cognitive mechanisms for representing and reasoning about artificial kinds

SU 9.00 am - 12.00 pm

Special interest group 1, room 123 Status: Multiple behavioral strategies?

Special interest group 2, room 122 Ethnic markers: Origins and consequences

Special interest group 3, conference room Mechanisms of adaptive plasticity

Social activities



Friday pre-conference party (directions from La Cuesta Inn):

- 1) Go right on Monterrey out of the hotel
- 2) Merge 101 South left ramp
- 3) Exit Madonna Rd
- 4) Turn left on Madonna
- 5) Turn right on Los Osos Valley Road
- 6) Turn left on Diablo Dr
- 7) End 1725 Diablo Dr

If necessary, check Stacy Rucas's conference link for further details: http://cla.calpoly.edu/~srucas/Evolution%20Conference%2008.htm

Organization team

Stacey Rucas — Cal Poly San Luis Obispo

Kristin Rauch & Pete Richerson — UC Davis

Greg Bryant, Matthew Gervais, Willem Frankenhuis & Andreas Wilke — UC Los Angeles

Aldo Cimino & Steve Gaulin — UC Santa Barbara

Many thanks to our helpful colleagues at Cal Poly.

Conference sponsoring

Dean of Social Sciences, UC Santa Barbara.

Dean of the Mathematical, Life and Physical Science Division, UC Santa Barbara.

Dean of the Graduate Division, UC Santa Barbara.

Division of Social Sciences, UC Los Angeles

Cal Poly Social Sciences Students.

Cal Poly Social Sciences Department.



Reconciling domain specificity and cultural transmission

Clark Barrett (barrett@anthro.ucla.edu), SA 1.30pm - 2.50pm, room 123.

While nearly everyone in the evolutionary social sciences seems to acknowledge that the naturenurture debate is premised upon a false dichotomy, a polarity still exists in debates about the nature of human cognition. In developmental psychology this surfaces in the form of the nativism vs constructivism debate. In evolutionary psychology and evolutionary anthropology it surfaces in debates about domain specificity. Sometimes domain specificity and cultural transmission are taken to be mutually exclusive or zero-sum explanations for phenomena, such that to the degree that cultural transmission is involved in some aspect of human behavior or cognition, domain specificity is not. This position is based upon misunderstandings about how domain specificity manifests itself in actual biological systems. On the one hand, domain specificity is not identical to hard-wiredness or inflexibility, and on the other hand, specialized design features are a necessary part of any learning system. However, cultural transmission does constitute a special form of information transmission with unique properties, and how domain specificity is manifested in mechanisms evolved for cultural transmission is an important and largely unexplored area for empirical investigation. In this talk, I present the results of recent studies of content effects in cultural transmission by myself among the Shuar, and by Joe Henrich and James Broesch in Fiji, and use these results to illuminate possible roles of domain-specific mechanisms in cultural transmission.

Cognitive mechanisms for representing and reasoning about artificial kinds

Tamsin German (german@psych.ucsb.edu), SA 4.10pm - 5.30pm, room 123.

Human knowledge about artifacts requires integration of information from different areas of commonsense knowledge in our everyday understanding of object mechanics and our everyday psychology. In this talk I present an overview of recent work on the nature and development of conceptual knowledge about artifacts, reviewing evidence from studies of children's and adults' artifact categorization, function judgment and problem solving.

Propaganda, public information, and prospecting: Explaining sub-optimal central place foraging in a late 19th Century Colorado silver rush

Susan Glover (smglover@ucdavis.edu), SA 11.20am - 12.00pm, room 123.

Traditionally, behavioral ecology models assume individuals act as if they form strategies based on perfect information. However, there is a growing trend to focus directly on the psychological mechanisms by which individuals acquire information and how imperfect information shapes strategies. I demonstrate how the optimistically high estimates of the amount of silver in local Gunnison County, Colorado ore that were published in local newspapers stimulated late 19th Century silver prospectors to locate mines much further from a central shipping town than is profitable given realistic silver content estimates and transportation costs.



As is evident from stock market bub bles and crashes, humans allow uncertain public information from the media (newspaper, television, internet) to influence their strategies. Foraging models that assume perfect information neglect the possibility of irrational exuberance, and will likely underestimate the extent

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and degree of human impacts on areas of resource extraction.

Perceptions of dominance and attractiveness in male voices suggest functional specificity in signal attention

Carolyn Hodges (crhodges@umail.ucsb.edu), SA 10.40am - 11.20am, room 123.

Low mean fundamental frequency (F₀) positively influences perceptions of dominance by men and attractiveness by women. I will present a study examining the effect of F₀ variation over an utterance (measured by the within-subject standard deviation in F_0 across the utterance, F_0 -SD) on these types of judgments. One hundred eleven male voices from an unscripted dating-game were judged by men for physical and social dominance and by women in fertile and non-fertile menstrual phases for short-term and long-term relationships. Results show that F₀-SD (but not mean F₀) predicted men's judgments of dominance, whereas mean Fo (but not F₀-SD) predicted fertile-phase women's judgments of sexual attractiveness. Formant dispersion, an acoustic correlate of vocal tract length, was unrelated to judgments of dominance and attractiveness. These findings may demonstrate functional specificity in attention to voice pitch; women may attend to the more static component of F₀ that is indicative of heritable mate quality in making attractiveness judgments, whereas intrasexual competitors assessing dominance may attend to aspects of the signal that more accurately track situational changes in physical, social, or motivational states.

Evolutionary models of personality

Richard McElreath (mcelreath@ucdavis.edu), SA 9.00am - 10.20am, room 123.

Taking this opportunity to present something I barely know more about than the audience does, I'll give an overview of the rapidly growing body of evidence and theory relating to animal "personality" or "behavioral syndromes". Both humans and other animals often display consistent individual differences in behavior across contexts, even when optimal behavior in those contexts is arguably different. After a bit of evidence, I'll trot out the two or three existing evolutionary models of the phenomenon. One of these models is my own, but I have no confidence if—nor any of the others—is the right answer.

The evolution of a prestige-bias in cultural transmission

Karthik Panchanathan (buddha@ucla.edu), SA 3.10pm - 3.50pm, room 123.

Social transmission is a particularly good way of transmitting adaptive behavior from one generation to the next when environments vary on intermediate time-scales. Formal models have demonstrated how and why certain types of social transmission, like a conformist bias, are favored by selection. Henrich and Gil-White have proposed that selection would favor a psychological design that preferentially imitates successful models. They argue that this process would culminate in a system in which successful individuals are accorded "prestige" and ignorant individuals ingratiate themselves to these prestigious individuals, trading



deference payments for access to adaptive behavior. Here, we sketch a preliminary model of Henrich and Gil-White's argument, focusing on the evolution of a prestige-bias, while, for the time being, ignoring the evolution of prestige. Our research confirms Henrich and Gil-White's intuitions; over a broad range of conditions, prestige-biased imitators invade a population of random imitators. And, as the frequency of prestigebias imitators increases, the mean fitness of the population increases as well. This makes sense because a prestige-bias is an adaptive filter, picking out superior cultural variants. As a prestige-bias is likely to be costly relative to random imitation (e.g., ranking several models in terms of success), there is a range of conditions under which a prestige-bias readily evolves but does not go to fixation; random imitators persist as second-order information scroungers.

Sunday morning from 9am-12pm there will be three concurrent special interest group sessions meant to facilitate discussions, in the context of diverse skill sets, that will contribute substantively to the research of the participants.

Status: Multiple behavioral strategies?

Special interest group 1 Facilitator: John Tooby SU 9am - 12pm, room 123.

Does "status" (dominance, formidability, prestige, rank, etc.) correspond to multiple dimensions in humans and/or non-human primates or other animals? Does "status" in humans have a clear homologue in non-human primates? Are there various kinds of adaptive problems (at various levels?) that "status" addresses, and/or various mechanisms/strategies for attaining "status"? Suggested topics include the evolution/emergence of hierarchies; aggression; wealth; leadership; and the possibility of multiple status niches with corresponding behavioral strategies and possible calibration to differentially pursue them.

Ethnic markers: Origins and consequences

Special interest group 2 Facilitator: Richard McElreath SU 9am - 12pm, room 122.

What are the origins of ethnic markers through organic and cultural evolutionary processes and their interaction? Are there various complementary or competing ultimate hypotheses regarding their origins? What sorts of proximate mechanisms in-

stantiate them? Are certain kinds of traits more likely to become ethnic markers? What kind of impact does an "ethnic marker psychology' have in the modern world? To what sort of entity do we even refer when we say "ethnic"? Sug-



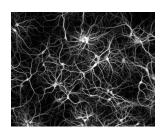
gested topics include the traits and interaction types

relevant to coordination costs; the proximate emotions regulating assortment; choosing "friends"; choosing social learning models; cultural learning across ethnic groups; and the formation of ethnic boundaries.

Mechanisms of adaptive plasticity

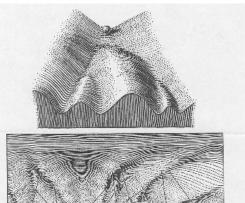
Special interest group 3
Facilitator: Clark Barrett
SU 9am - 12pm, conference room.

What are the various mechanisms for instantiating adaptive plasticity, and do these correspond to distinct sorts of selective pressures? Do EP, HBE, and Dual Inheritance Theory emphasize different kinds



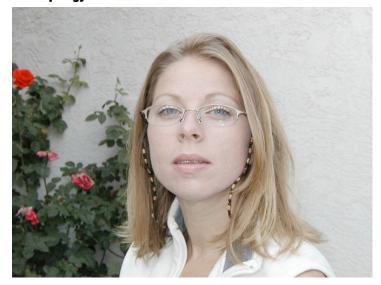
of plasticity? What are the mechanistic entailments of these different kinds? When do we differentially predict for, and how do we empirically distinguish be-

tween, different sorts of plasticity? Suggested topics include the selective pressures favoring different kinds of flexibility; the heritability of flexibility; how to distinguish mechanisms of plasticity when we observe it phenotypically; and the relative roles of different kinds of plasticity in different evolutionary approaches to human behavior.

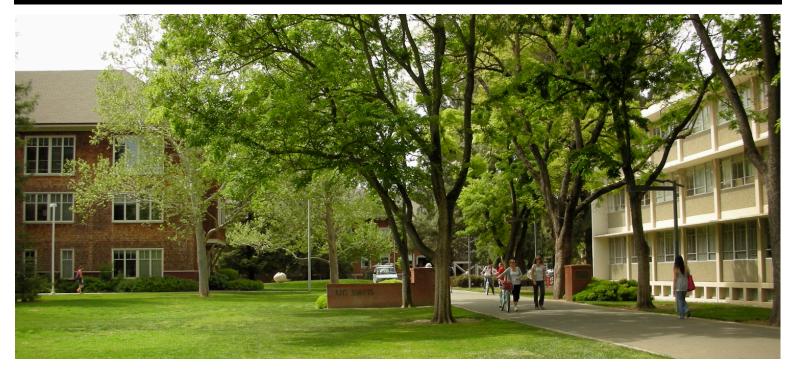




Stacey Rucas, Anthropology



Women's social dynamics; reproductive ecology; endocrinology and behavioral ecology of sleep.



Robert Bettinger, Anthropology



Hunter-gatherers; cultural transmission; origins of agriculture.

Mark Grote, Anthropology



Population genetics and genomics.

Andrew Marshall, Anthropology



Primatology; primate evolutionary ecology; forest ecology; conservation; Indonesia.

Richard McElreath, Anthropology



Social learning; cultural dynamics; theoretical evolutionary ecology.

Lesley Newson, Psychology (University of Exeter)



Cultural evolution; evolutionary ecology; transmission bias.

Pete Richerson, Environmental Science & Policy



Cultural evolution; theory and experiments; limnology (aquatic ecology).

Bruce Winterhalder, Anthropology



Behavioral and evolutionary ecology; cultural ecology; hunter-gatherers; agriculturalists/pastoralists; models of human adaptive processes; origins of agriculture.

John Bunce, Anthropology



Primate behavioral ecology and genetics; evolution of color vision.

Katie Demps, Anthropology



Cultural evolution; social learning strategies; ecological behavior; religious conversion dynamics.

Sue Glover, Anthropology



Economic anthropology; behavioral ecology; frontiers; risk and uncertainty; demography; spatial and historical methods.

Vicken Hillis, Ecology



Cultural evolution; ethnic markers; cooperation; agricultural development; game theory.

Kristin Rauch, Anthropology



Mate choice; assortative mating; sexual selection; human behavioral ecology.

Ryan Schacht, Anthropology



Human behavioral ecology; sexual selection; mate choice; sex ratio; Guyana.

Nathan Stevens, Anthropology



Archaeology (California and the Great Basin); hunter-gatherers; human behavioral ecology; organization of technology; cultural change and transmission.

Matt Zimmerman, Ecology



Cultural evolution; evolutionary ecology; transmission biases.



Clark Barrett, Anthropology



Domain specificity; modularity; predator-prey cognition; animacy detection.

Greg Bryant, Communication Studies



Language and speech; inferential communication; cognitive science; evolutionary psychology.

Daniel Fessler, Anthropology



Emotions; cooperation; disease avoidance; reputation.

Martie Haselton, Communication Studies and Psychology



Evolved psychology; communication; mate choice; changes in women's social behavior across the ovulatory cycle; rationality.

Joe Manson, Anthropology



Primate behavior; social relationships; cultural primatology; mate choice.

Susan Perry, Anthropology



Social Learning; communication; social relationships; capuchins; development.

Beth Di Leone, Psychology



Animal behavior; cognitive psychology.

Willem Frankenhuis, Anthropology



Modularity; plasticity; domain specificity; animacy.

Matthew Gervais, Anthropology



Moral psychology; convention; contempt; overimitation; ethnic markers.

Katie Hinde, Anthropology



Reproductive investment; milk production; individual variance; infant outcomes; rhesus macaques.

Bailey House, Anthropology



Prosocial preferences; decision-making biases; infant and non-human primate social cognition.

Michelle Kline, Anthropology



Ethnic psychology; cultural transmission.

Stephen Le, Anthropology



Time discounting; cooperation; prisoner's dilemma; context dependence; game theory.

Sarah Mathew, Anthropology



Evolution of cooperation; voluntary participation in models of cooperation; cooperation in warfare; psychological adaptations for war; cultural group selection.

Cristina Moya, Anthropology



Evolution of social group categorization; inductive reasoning; cues to ethnicity; coordination costs across group boundaries.

Karthik Panchanathan, Anthropology



Reciprocity; reputation; intergroup psychology.

Elizabeth Pillsworth, Anthropology



Mate choice; menstrual cycle; Shuar.

Anne Pisor, Anthropology



Evolutionary psychology; mate choice.

Jeffrey Snyder, Anthropology



Sexual selection; female mate preferences; male aggression; male status.

Andreas Wilke, Psychology



Human cognitive evolution; foraging behavior; decisionmaking; behavioral ecology; MatLab.



Leda Cosmides, Psychology



Evolutionary psychology; cognitive science; evolutionary biology; reasoning; motivation.

Steven Gaulin, Anthropology



Waist-hip ratio; spatial ability; voice; sex differences; fat.

Tamsin German, Psychology



Theory of mind; tool use; conceptual development; categorization.

Michael Gurven, Anthropology



Life history evolution; cooperation; demography and health; foraging and hunter-gatherers; aging and development.

Jim Roney, Psychology



Courtship; mate preferences; sex hormones.

John Tooby, Anthropology



Evolutionary psychology; behavioral ecology; evolutionary biology; cognitive science; emotions / motivations.

Eyal Aharoni, Psychology



Punishment; psychopathy; aggression.

Sangin Kim. **Psychology**



Cooperation; emotions; theory of mind; game theory.

David Pietraszewski,

Psychology

Aldo Cimino, **Anthropology**



Coalitional psychology; hazing; ritual; cooperation; evoked culture.

Max Krasnow, **Psychology**



Foraging; tool-artifactfunction reasoning; cooperation; concepts; computational psychology.

Theresa Robertson,

Psychology

Andy Delton, **Psychology**



Cooperation; cognitive and computational approaches to psychology.

Julian Lim, **Anthropology**



Gratitude; morality; intentions; friendship;



reciprocity.

Chris von Rueden. **Anthropology**



Life history evolution; health; male social status and leadership.

Annie Wertz. Psychology



Elsa Ermer, **Psychology**



Status; coalitional psychology; social reasoning; risk taking; cognitive neuroscience.

Anthony Lopez, Political Science



International relations; evolutionary political psychology; coalitional psychology; aggression.

Eric Schniter, Anthropology



Life history evolution; culture ontogeny, distribution and transmission; older age.

Kate Hanson Sobraske, **Anthropology**



Mate value; individual differences in mate preferences; pair bond formation.

Aaron Lukaszewski, **Psychology**



courtship signaling; dominance and status in men; female mate preferences; testosterone.

Aaron Sell, **Psychology**



Anger; aggression; formidability; RHP.

Carolyn Hodges, Anthropology



Vocal signaling; intrasexual competition; sex differences; emotion and expression; status.

Jeff Niehaus, **Psychology**



Visual attention capture and cuing; agency and animacy; belief-desire reasoning.

Zach Simmons, Psychology



Behavioral endocrinology; female mate preferences; energetic condition / energy balance.

Daniel Sznycer. Anthropology

Coalitional / alliance

psychology; accent; race.



Shame; pride; cooperation; adaptationist models of culture.

Danielle Truxaw. Psychology

Social exclusion;

rejection; belonging

recalibrating event.

regulation; rejection as



Tool-artifact-function reasoning; foraging; precautionary reasoning



Theory of mind; cognitive development.