

"From so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved."

Center for Human Evolutionary Studies

CHES Officers 2012-2013

Lee Cronk, Director (on leave 2012-13)
Ryne Palombit, Acting Director 2012-13
Susan Cachel, Executive Board Member
Robert Scott, Executive Board Member
Erin Vogel, Executive Board Member



Mark your calendars: On **September 27th** this Fall, CHES will hold an open house at the Douglass Dean's Residence to inform all of our supporters about the important work we have done over the past few – more details to follow!

The Year 2011-2012 was filled with exciting news and events:



Erin Vogel, the newest faculty member of CHES, was hired as an Assistant Professor of Anthropology at Rutgers in 2011. Prof. Vogel is a physical anthropologist and primate behavioral ecologist who received a Ph.D. from Stony Brook University in 2004, and thereafter held a post-doctoral fellowship at University of California – Santa Cruz and the University of Zurich. In 2009 she was hired as a Research Scientist at The George Washington University in the Center for the Advanced Study of Hominin Paleobiology. Dr. Vogel runs a field site, Tuanan, located in Central Kalimantan on the island of Borneo (Indonesia), where she studies the diet, nutrition, and health of wild orangutans. Her past research has been published in a wide variety of scientific journals, and her recent research on



“At Tuanan, we focus not only on data collection but also on conserving the habitats of wild orangutans”

Dr. Erin Vogel

orangutan nutrition has been covered in the press. In 2010, she also initiated an environmental educational project focusing on orangutan conservation and reforestation for local school children near her field site. CHES funding supports this important program, which both benefits the local communities, and also helps to ensure the long-term survival of the highly endangered orangutans of Indonesia.

Guest Speakers: This past year, CHES hosted several prominent evolutionary anthropologists, including Dr. **Susana Carvalho** (Cambridge University), who gave an exciting lecture on her use of a chimpanzee archaeology approach to better understand the evolutionary origins of human technological behavior. Professor Jack Harris hosted the talk and following dinner, which were attended by a number of generous CHES donors.

Prof. Jack Harris continues running the Koobi Fora Field School and the Primate, Wildlife Ecology, and Conservation Field School in Kenya this summer. On June 16th in Nairobi, the National Museums of Kenya hosted an evening of talks and a reception honoring Rutgers alumni and research projects in Kenya and, in particular, paying tribute to Jack and his long career of research and education in Kenya.

Highlighted Graduate Student Research Funded by CHES



Emily Aronoff, a past Zelnick award recipient, returned from the field in August 2011 and has been working on further research and dissertation writing. She spent 15 months at the Kenyan field site of her advisor, Ryne Palombit, collecting behavioral and genetic data on two groups of wild olive baboons (*Papio anubis*). This summer, she is doing DNA analyses at the Molecular Primatology Laboratory at New York University, with the aim of constructing a genealogy of the

baboons. CHES, NSF, and the Leakey Foundation have funded both her field and laboratory work. Ultimately, Emily’s data will clarify the adaptive value of having male relatives in a “matrilocal” primate society otherwise organized around female kin.

Lisa Danish, an advisee of Robert Trivers, is completing her genetics lab work for her dissertation and working on publications from her dissertation. Over the past year she has presented her results at three conferences.

Sarah Hlubik, a first year advisee of Jack Harris, is continuing her research on the FxJj 20AB site in Koobi Fora, Kenya. She is





Student excavations at Koobi Fora during the 2010 field season

continuing the excavations this summer and will include the data she collects in the analysis for her thesis research. This summer, she is going to conduct some new surveys, test kite aerial photography methods at the site, and conduct some photogrammetry of the site to try to virtually recreate the site.

Padmini Iyer, this year's Zelnick awardee and a second year graduate student working with CHES faculty member Lee Cronk, is an anthropologist specializing in human behavioral ecology. She is spending this summer in Moroto, Uganda, doing pilot work to facilitate her future research. Padmini is interested in studying the nature of intergroup relations among the territorial sections of the Karimojong, and how these relationships have changed in the last few years after forceful disarmament. This summer, Padmini is learning the Ngakarimojong language, making contacts with local officials, and meeting the elders and chiefs of the many villages in the area. Her plan is to come back to the US in Fall 2012 and use her summer experience and preliminary data to develop a questionnaire exploring coalitional psychology.

Jay Reti, one of Jack Harris' advisees, will defend his dissertation this coming year.

Over the last two years, Jay's research program has developed into the largest experimentally produced stone tool sample ever undertaken. With funding support from the National Science Foundation and the Leakey Foundation, he traveled to the early human archaeological localities of Koobi Fora, Kenya and Olduvai Gorge, Tanzania to collect stone raw materials that Oldowan-producing hominins utilized to make their lithic implements 1.8 million years ago. After shipping one metric ton of these raw materials back to the Holt Laboratory for Paleoanthropology at Rutgers University, he produced 3,600 Oldowan implements from 360 individual cobbles using a highly controlled experimental protocol. Jay's data suggest that even at 1.8 million years ago, hominins at Olduvai Gorge and Koobi Fora were producing stone tools in different ways. Separate traditions of stone tool manufacture suggest cultural separation within the Oldowan at 1.8 million years ago. This research is the earliest quantitative evidence for such differential cultural behavior.

Darcy Shapiro, a third year graduate student working with CHES faculty member Robert Scott, has spent the past year collecting pilot data for her dissertation proposal. This work

(continued)

included a trip to the Smithsonian National Museum of Natural History last summer to measure primate pelvises for shape analysis, as well as a stay at the University of Texas (Austin) to do CT scanning of internal structure of chimpanzee and orangutan pelvises. She presented her findings as a poster at the annual conference of the American Association of Physical Anthropologists in Portland, Oregon. This summer, she is spending a month digging for fossil apes at a Miocene swamp excavation site in Hungary.

Helen Wasielewski, an advisee of Lee Cronk, successfully defended her doctoral dissertation, *Social Learning Mechanisms of Cultural Evolution*, in June 2012. Since the summer of 2011, she has given three talks on her research at professional meetings.

HIGHLIGHTED FACULTY UPDATES

Prof. Robert Blumenshine continues his research at Olduvai Gorge in Tanzania. He is currently on leave in South Africa as a member of the Palaeontological Scientific Trust (PAST) until December 2012.

Prof. Robert Trivers published a new book titled *The Folly of Fools: The Logic of Deceit and Self-Deception in Human Life*. This latest book of Trivers' has been heavily featured in the popular and science press, and Prof. Trivers spent Fall 2011 on a book press tour throughout the United States and Europe. His book is currently being translated into Italian, Greek, Finnish, Russian, German, Spanish, Korean, and Portuguese.

Prof. Ryne Palombit has recently completed with his collaborators a major edited book, *The Evolution of Primate Societies*, which is a comprehensive review of primate behavioral ecology based on the last several decades of research worldwide.

It will be published this year by the University of Chicago Press. Palombit also recently contributed the species review profile for the olive baboon in *All the World's Primates*, which is both a book (to appear in early 2013) and the largest electronic database of primate biology, which has just become available online. These resources support public education and professional research as well as promote the conservation of the world's living primates. Palombit continues to conduct research on olive baboon behavior and ecology in Laikipia District, Kenya, a project now entering its twelfth year. He is spending his summer in Kenya with his two new graduate students, Marieke Janiak and Mulu Stan Kivai as they develop their dissertation research projects. Stan and Mareike are collecting data on the mechanical properties of baboon foods using a new portable tester kit that was purchased with CHES funding.

Prof. Lee Cronk and his co-author, Beth L. Leech, are putting the final touches on their book *Meeting at Grand Central: Understanding the Social and Evolutionary Roots of Cooperation*, which will be published in October by Princeton University Press. During the 2012-2013 academic year, Prof. Cronk will be on leave in Princeton at the Center of Theological Inquiry. CTI's theme for the year is "Evolution and Human Nature." He is also involved in a long-term collaborative project on risk-pooling arrangements involving scholars from both Rutgers and Arizona State University. As part of that project, he spent part of May in Nevada's Paradise Valley, exploring risk pooling and other forms of cooperation among the area's ranchers and laying the foundation for future fieldwork there.

Prof. Rob Scott has recently published papers reporting on his fieldwork in Turkey as well as the results of the largest study to date linking primates' diets with their high-resolution dental microwear.

In “Şerefköy-2, a new late Miocene mammalian locality from the Yatağan Formation, Muğla, SW Turkey,” published in *Comptes Rendus Palevol*, Scott's team reports on a new fossil locality in Turkey with implications for understanding late Miocene paleoecology and ultimately the disappearance of Miocene apes from Eurasia. In Scott's paper “Dental microwear textures and anthropoid diets,” published in the *American Journal of Physical Anthropology*, he describes the largest comparative sample of high-resolution primate dental microwear yet published and compares these results with fossil hominins. Scott is intrigued by the hypothesis that *Paranthropus boisei* was a grass or sedge eater, which he thinks is supported by the dental microwear evidence. With his student, Susan Coiner-Collier, he is working on an alternative test of the hypothesis using HRXCT scans of mandibular condyles. Scott's major new initiative is a foray into experimental biology to test the cooking hypothesis: do humans spend less energy digesting cooked meat compared to raw meat? Scott has begun experiments (funded by CHES) over the summer. These experiments include work with the Rutgers-based TIM-1 digester, the only set-up of its kind in the United States.

Recent Publications by CHES faculty and students:

Dr. Robert Blumenschine & Dr. Robert Scott coauthored “Validation of bone surface modification models for inferring fossil hominin and carnivore feeding interactions, with reapplication to FLK 22, Olduvai Gorge, Tanzania” in the *Journal of Human Evolution* (in press).

Dr. Robert Blumenschine & Dr. Robert Scott coauthored “Dental microwear texture analysis of hominins recovered by the Olduvai Landscape Paleoanthropology Project, 1995-2007” in *Journal of Human Evolution* (in press).

Dr. Susan Cachel published a review of *The First Four Million Years of Human Evolution*, a special issue of *Philosophical Transactions of the Royal Society B (Biological Sciences)*. In *PaleoAnthropology* (2011).

Dr. Susan Cachel published “Human tool behavior is species-specific and remains unique” in *Behavioral and Brain Sciences* (2012).

Dr. Lee Cronk coauthored (with graduate student **Rolando DeAguiar**) “Stratification and supernatural punishment: Cooperation or obedience?” In *Religion, Brain and Behavior* (2011).

Dr. Lee Cronk (with multiple authors) published “Risk-pooling and herd survival: An agent-based model of a Maasai gift-giving system” in *Human Ecology* (2011).

Dr. Ryne Palombit published “The Olive Baboon (*Papio anubis*)” as part of the online database and forthcoming book, *All the World's Primates* (Noel Rowe, Editor).

Dr. Robert Scott coauthored Şerefköy-2, a new late Miocene mammalian locality from the Yatağan Formation, Muğla, SW Turkey in *Comptes Rendus Palevol* (2012).

Dr. Robert Scott was first author on an article “Dental microwear textures and anthropoid diets” in *American Journal of Physical Anthropology*, (2012)

Dr. Robert Trivers published *The Folly of Fools: Deceit and Self-deception in Human Life*. New York. Basic Books. (Note: translated in Italian, Greek, Finnish, Russian, German, Spanish, and Portuguese). Penguin (2011).

Dr. Robert Trivers coauthored (with graduate student **Robert Lynch**) “Self-deception inhibits laughter and humor appreciation” in the *Journal of Personality and Individual Differences* (2012).

Dr. Erin Vogel was first author on an article “Quantifying primate food abundance and distribution for socioecological studies: An objective consumer-centered method” in *International Journal of Primatology* (2011).

(continued)

Dr. Erin Vogel (with multiple authors) published "Forest fruit production is higher on Sumatra than on Borneo" in *PLoS ONE* (2011).

Dr. Erin Vogel (with multiple authors) published "Geographic isotropic variation in mouse lemur (*Microcebus*) populations" in *Journal of Biogeography* (2011).

Dr. Erin Vogel was first author for a major article, "Bornean Orangutans on the Brink of Protein Bankruptcy," in *Biology Letters*, Dec 12 2011, which received major international media coverage.

Dr. Erin Vogel co-authored "Insights into primate dietary ecology: methods and theory." in *International Journal of Primatology* (2012).

Dr. Erin Vogel (with multiple authors) "Measuring the toughness of primate foods and its ecological value." in *International Journal of Primatology* (2012).

Dr. Erin Vogel was first author on an article "A method for measuring nitrogen balance in free ranging primates" in *International Journal of Primatology* (2012).



Center for Human Evolutionary Studies
32 Bishop Street
Rutgers, The State University of New Jersey
New Brunswick, NJ 08901

[Recipient]

Address Line 1
Address Line 2
Address Line 3
Address Line 4