

RUTGERS

THE STATE UNIVERSITY
OF NEW JERSEY

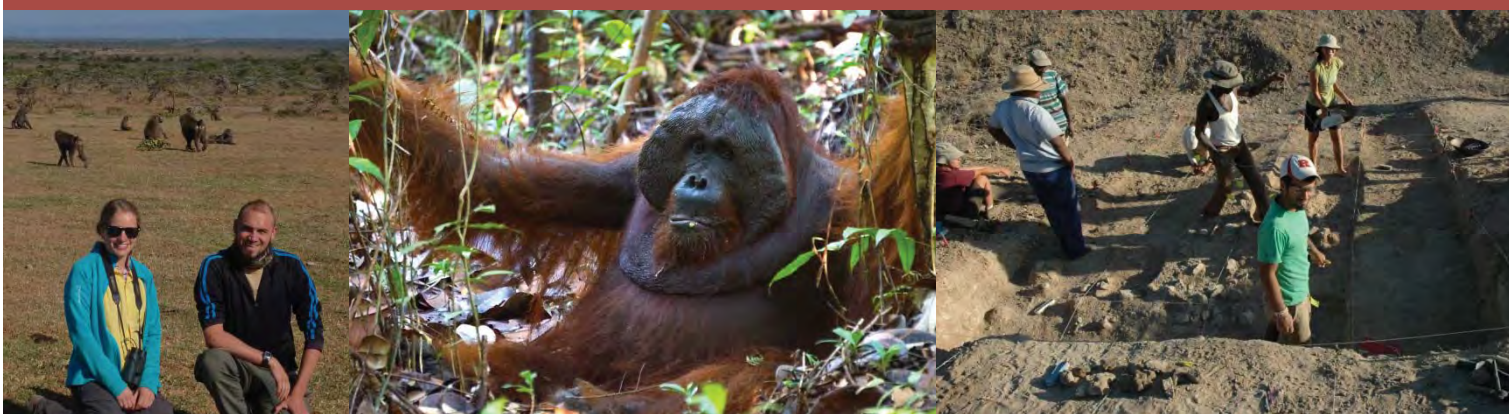
"From so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved."

Center for Human Evolutionary Studies

CHES Newsletter
Fall 2015

CHES Officers 2015-2016

Ryne Palombit, Director
Craig Feibel, Executive Board
Robert Scott, Executive Board
Erin Vogel, Executive Board



Mark your calendars: On **October 1, 2015**, CHES will hold an **Open House** in the Life Sciences Atrium to inform all of our supporters about the important work we have done over the past few months – more details to follow!

NEWS



Prof. Gyan Bhanot

This year CHES welcomes its newest member, Prof. **Gyan Bhanot**. Prof. **Bhanot's** research questions are on the interplay of selection, adaptation and population dynamics to understand the interconnected evolution of diverse organisms from viruses to mammals. Some of his recent work has been on understanding the genetic basis of longevity, host-pathogen co-evolution in influenza A, and identification of signatures for cardiac protection from dietary selection.

CHES hosted the first ever meeting of the Northeastern Evolutionary Primatology (NEEP) group. CHES members Dr. **Erin Vogel** and Dr. **Ryne Palombit** organized the event with Dr. Carola Borries and Dr. Andreas Koenig of the State University of New York, Stony Brook. A contingent of graduate students from Rutgers and Stony Brook helped to make sure the meeting ran smoothly. The two-day conference drew together approximately 100 researchers

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Dr. Ryne Palombit and Dr. Carola Borries

The inaugural conference of NEEP, November 2014



including faculty and graduate students from Duke, Harvard, George Washington, NYU, and Stony Brook.

The meeting began with a keynote talk by Dr. Jenny Tung (Anthropology, Duke University), who presented a compelling investigation of the effects of sociality on the gut microbiome of baboons and rhesus macaques. The keynote was followed by podium presentations and a student poster session. Dr. **Erin Vogel** presented her work on the effects of nutrient variability on wild Bornean orangutan demography, while Dr. **Wendy Erb** discussed the relationship between energetics and the long calls made by adult male orangutans. CHES graduate affiliates were also heavily involved with a great showing for the poster symposium session from **Susan Coiner-Collier, Mareike Janiak, Emily Lynch, Alysse Moldawer, and Didik Prasetyo**. CHES sponsored awards for the best podium presentation and the best poster. These were won by Ariana Strandburg-Peshkin (Princeton) for her work on conflict in decision making about group travel in wild baboons, and Timothy Webster (Yale), for his work with protein evolution in sifaka lemurs. Finally, at the organizational meeting, Dr. **Ryne Palombit** was elected NEEP's first President.

Dr. **J.W.K. (Jack) Harris**, one of CHES' founding members, was honored with an international conference at the Riverstone Ranch in Healdsburg, California in April. The conference, "*From a Landscape Perspective: A Celebration of J.W.K. Harris' Career*" was sponsored by The Wenner-Gren Foundation, The Leakey Foundation, and the Holt Family Foundation, in collaboration with the National Museums of Kenya and The Center for Advanced Study of Human Paleobiology at the George Washington University. For over 40 years, **Jack Harris** has been organizing field seasons and doing research in East Africa. He has trained a number of East African students from Kenya and Ethiopia, as well as numerous American students, and become a friend and mentor to many who have never taken a class with him. He has brought together researchers working in the deep past of 2.6 million years with people working on modern landscapes to help puzzle out the story of how humans evolved. This April 20th and 21st, many of those who have trained alongside or under Jack came together to celebrate Jack's career among the rolling hills of Riverstone Ranch, in Healdsburg California. The event included presentations from former classmates, students, and colleagues.

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Jack Harris honored with "From a Landscape Perspective" conference

Left to Right: Mzalendo Kibunjia, Michael Pante, Dave Braun, Sara Hlubik, Jack Harris, Jack McCoy, Stephen Merritt.

Presentations ranged from how technology varies over time and space to how modern and near-modern people utilize landscapes. Presenters included Jack's former PhD students **David Braun, Mzalendo Kibunjia, Purity Kiura, Jack McCoy, Stephen Merritt, Emmanuel Ndiema, Michael Pante, Mike Rogers**, and current student **Sarah Hlubik**, as well as Rutgers Alumnus **Andrew Du**.

The tributes to Jack were heartwarming and plentiful. There were also a lot of good field stories about Jack, and how he influenced and encouraged so many.

Catherine Beck, Emily Aronoff and **Susan Coiner-Collier** all successfully defended their dissertations over the course of the summer. Catherine's dissertation was entitled, "*A multi-proxy approach to deciphering terrestrial climate records from the Turkana Basin, Kenya.*" Catherine has accepted a tenure-track sedimentology position in the Geosciences Department at Hamilton College. Emily's dissertation was entitled, "*Patrilineal kinship in a matrilineal society of olive baboons (*Papio hamadryas anubis*) in Kenya.*" Susan's dissertation was entitled "*Feeding ecology and the trabecular structure of the mandibular condyle in extant primates.*"



Fred Foster

2015 ZELNICK AWARD

The annually distributed Zelnick Award supports second-year CHES graduate affiliates in their research. This year, the recipients were **Didik Prasetyo** and **Frederick Foster**. Frederick is interested in understanding the locomotor behavior of apes that lived prior to the last common ancestor of chimpanzees and humans. He visited the Kenya National Museum in Nairobi to study the fossil remains of *Nacholapithecus*

kerioi, a species of ape that lived around 15 million years ago. While Frederick studies fossil apes, Didik studies living ones. He is conducting a research on the influence of nutritional intake and social dominance on the development of flanges among male orangutans. This work includes observations from the orangutans rehabilitation release site in Batikap protected forest in Central Kalimantan, Borneo



Economic Games in Fiji and Social Relationships

CHES POSTDOCS

Matt Gervais. At the November 2014 meeting of the American Anthropological Association Matt was awarded *Best Paper by a New Investigator* by the Evolutionary Anthropology Society for a talk entitled "Interpersonal Attitudes Adaptively Regulate Social Relationships: Evidence from RICH Economic Games in Fiji". This talk was given in an Invited EAS session he organized entitled "Producing a Vertically Integrated Evolutionary Anthropology: Studies of Proximate Mechanisms in Social Dynamics".

This summer, as part of Dr. **Lee Cronk's** John Templeton Foundation-funded Human



Matt Gervais

Generosity Project, Matt returned to rural villages in Fiji. He conducted ethnographic interviews on villager perceptions of risk in the physical and social environment. This work aims to characterize risk management strategies including social risk pooling. Further work focused on the Fijian *kerekere* system of need-based requests and understanding the currencies, expectations, and social network patterning of *kerekere* resource transfers. Finally, Matt is completing



Wendy Erb and Nico the orangutan.

retrospective interviews of villagers' experiences with Cyclone Evan, a Category 4 hurricane that struck in December 2012. These interviews will generate data on specific risk management strategies before and after the storm, including social network data for the flow of various forms of social support. Among other analyses, he plans to use data gathered

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earlier in 2012 on villager resources and reputations to characterize the moderators of resilience during a natural disaster.

Wendy Erb. Wendy has been working with Dr. **Erin Vogel** since January 2013 as a postdoc and project manager for a USAID funded program focused on research, education, and conservation of orangutans and peatland forests at the Tuanan Research Station in Central Kalimantan, Indonesia. During the last two and a half years, she has become a jack-of-all-trades, dividing her time evenly between Indonesia and the U.S., engaging in field and lab-based research, training American and Indonesian students in primate behavior and ecology, co-developing and organizing a new Rutgers study abroad program, and expanding collaborative relationships in Indonesia. She also conducts her own research project focused on the honesty of orangutan long calls as signals of health and energy. Whenever she can, Wendy spends as much time as possible conducting nest-to-nest follows of flanged males, collecting behavioral data and urine and fecal samples, and recording long calls from focal animals. In addition to her full-time postdoc/manager position, Wendy is developing and managing a community education program through a grant from the Disney Conservation Fund. This program is aimed at increasing awareness about and support for forest and orangutan conservation in seven communities neighboring the research station. The project began with social research to understand the knowledge, attitudes, and practices of local people in the region. Wendy and colleagues just completed the first round of educational workshops focused on peat swamp and orangutan conservation. Overall, the program has garnered much interest and support. The road ahead includes many challenges to truly win community support and engagement in forest and orangutan conservation in the area.

GRADUATE AFFILIATES

Darcy Shapiro : This March, Darcy presented a poster with Dr. David Begun at the annual conference of the American Association of

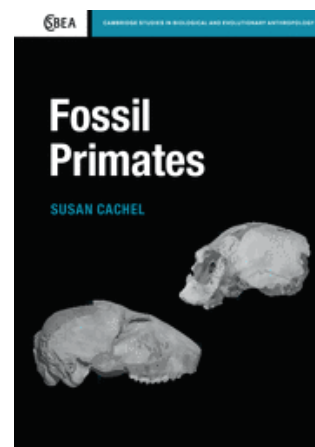
Physical Anthropologists titled "*A preliminary analysis of the iliac trabecular architecture of Rudapithecus hungaricus.*" In June of 2014, Darcy was selected as one of only 50 participants to attend ComSciCon, a premiere gathering on communicating science.

Alex Pritchard : Alex was co-author on the paper "*Park rangers' behaviors and their effects on tourists and Tibetan macaques (Macaca thibetana) at Mt. Huangshan, China*" in the journal *Animals*. During the summer Alex engaged in pilot research on personality in wild baboons at Dr. **Ryne Palombit's** field site.

Melanie Jackson: Melanie also spent the summer at Dr. **Ryne Palombit's** field site. She conducted pilot research on sexual conflict in wild baboons.

Mareike Janiak. Mareike spent part of her summer at La Selva Biological Station in Costa Rica. She was the teaching assistant for a primate field course organized through Humboldt State University and the Organization for Tropical Studies. La Selva is a field site with beautiful primary rainforest, making it an ideal place to teach undergraduates about tropical ecology and primate behavior. She spent rest of her summer at New York University's Molecular Anthropology Lab conducting research for her dissertation on how digestive enzymes have been adapted for insectivory in primates.

FACULTY UPDATES



Prof. Susan Cachel published, her book *Fossil Primates* in June. It is part of the Cambridge Studies in Biological and Evolutionary Anthropology series. The book includes emphases on evolutionary theory

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and processes, paleobiology, paleoenvironment, how fossils are formed, how fossils illustrate evolutionary processes, the reconstruction of life from fossils, the formation of the primate fossil record, functional anatomy, and the genetic bases of anatomy.

Prof. **Ryne Palombit's** research project on olive baboons continues in Kenya, and he is collaborating with Prof. Jessica Rothman and graduate student Caley Johnson of Hunter College in a comparative study of nutritional ecology of baboons. To better understand how feeding and nutritional adaptations evolve, Caley is collecting data on Palombit's baboons in the arid thornscrub of Kenya and in the tropical forests of Uganda.

Prof. **Craig Feibel** has been in the field working on several projects including renewed excavations and geological study at Kanapoi, the type locality for *Australopithecus anamensis*. This work focuses on the evidence for accumulation, burial, and preservation of the hominin assemblage.

Prof. **Lee Cronk** continues to co-direct the Human Generosity Project (www.humangenerosity.org), a multi-year, transdisciplinary project to better understand cooperation, mutual aid, and sharing among humans. In addition to supervising fieldwork by postdocs, graduate students, and collaborators at six sites around the world, Prof. **Cronk** himself is collecting data on mutual aid networks among ranchers in the Malpai borderlands region of Arizona and New Mexico. During the past year Cronk has also published articles in *Evolutionary Anthropology* and *Evolution and Human Behavior*, given presentations at several professional meetings and at Arizona State and Ohio State Universities, and delivered the keynote address at the Young Presidents' Organization's Global Forum on the Sharing Economy.

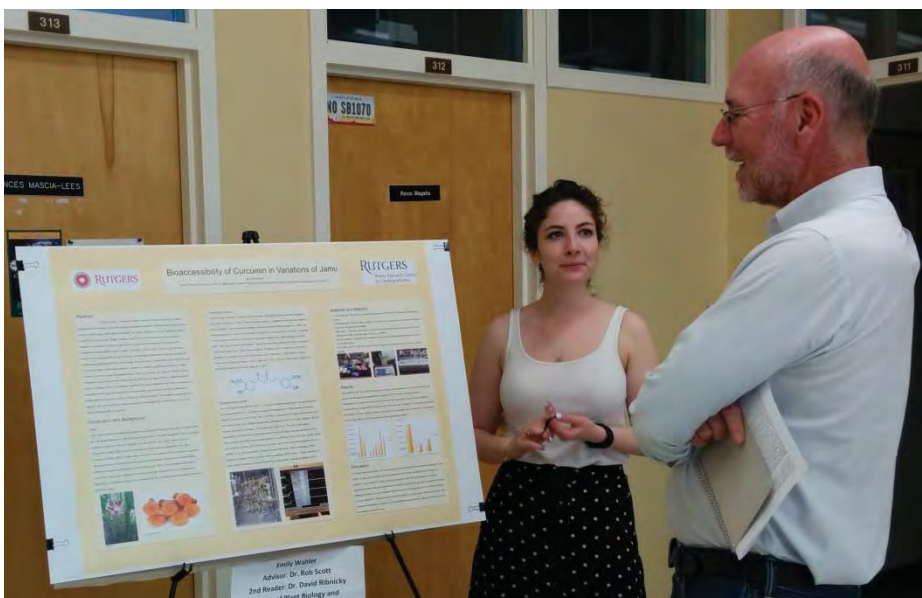
Prof. **Robert Trivers** published major paper on elite sprinters bearing out a 2013 paper showing that knee symmetry predicted running speed 14 years into the future. The new work shows that among the best sprinters in the world, it is again knee symmetry that predicts best times. Prof. **Trivers** also delivered a keynote address, a 'post-conference note' and a TEDx talk "Symmetrical Knees and Sprinting Speed in Humans which can be found on YouTube.

With postdoc **Wendy Erb**, Prof. **Erin Vogel** received a grant from Disney Worldwide Conservation Foundation to expand the environmental education that Dr. Vogel started in 2011 in Central Kalimantan, Indonesia as part of her long-term research on orangutans.

UNDERGRADUATE RESEARCH

CHES instituted new Undergraduate Affiliate membership this year. Several undergraduates were inducted and completed research projects supervised by CHES faculty.

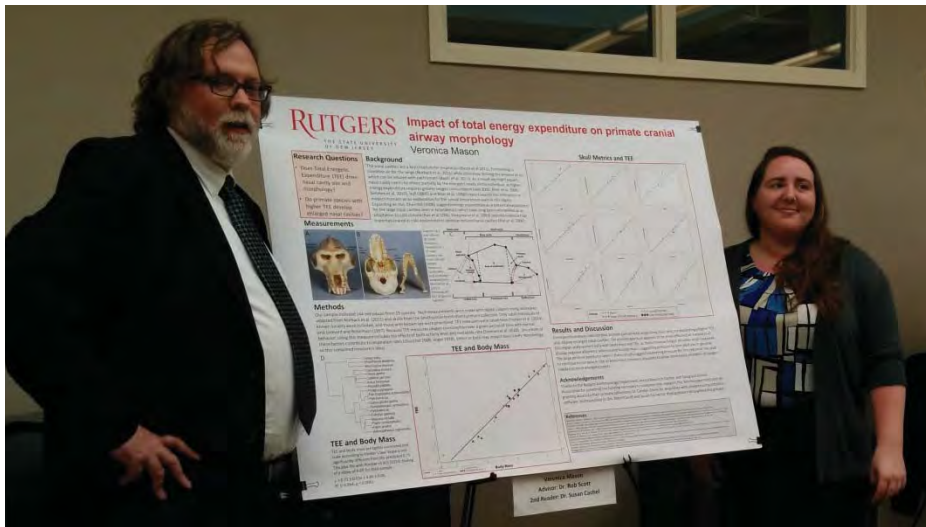
Veronica Mason was awarded one of 41 SAS Henry Rutgers Scholar Awards with a monetary prize of \$1000 and also earned Highest Honors for her Anthropology Honors Thesis " *The impact of total energetic*



CHES Undergraduate Affiliate Emily Wahler and Dr. Craig Feibel.

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UNDERGRADUATE RESEARCH



Rob Scott and Veronica Mason.

from a low explosive to a high explosive" supervised by Prof. **Rob Scott**. **Christina Spoleti** won First Prize in the Undergraduate Anthropology Poster Symposium and earned High Honors for her Anthropology Honors Thesis "*Moderators of Patient Comfort during Pre-hospital Basic Life Support (BLS)*" supervised by Prof. **Susan Cachel**. **Emily Wahler** earned High Honors for her Anthropology Honors Thesis "*Bioaccessibility of curcumin in variations of Indonesian medicine*" supervised by Prof. **Rob Scott**.

ALUMNI UPDATES

CHES alumni continue to be leaders in research and education in human evolution. Dr. **Rhonda Quinn** was awarded an NSF CAREER Grant: "*Human adaptations to changing environments: Supporting student education and research in anthropological isotopic methodologies.*" These grants are very competitive! Dr. **Chris Campisano** and Dr. **Dave Braun** were involved in the big fossil find of oldest *Homo* and are co-authors of the paper "*Early Homo at 2.8 MA from Ledi-Geraru, Afar, Ethiopia*" published recently in *Science*. Dr. **Helen Wasielewski** is beginning a postdoctoral fellowship at Arizona State University. She will be testing whether microbial



The most recent CHES alum, Susan Coiner-Collier, with her committee, Erin Vogel, Susan Cachel, and Rob Scott.

inhabitants of the gut affect human food preferences and intake. Dr. **Robert Lynch** continues a postdoctoral fellowship at the University of Missouri working with famed anthropologist Napoleon Chagnon on his long-term ethnographic data on the Yanomamö of Amazonia. Dr. **Briana Pobiner** is a research scientist and museum educator at the Smithsonian and just released a new AP Biology curriculum on teaching evolution using human examples. This curriculum is available at no charge and was funded by her grant from the National Science Foundation. Dr. **Hillary Piolet DelPrete** has just accepted a tenure-track position in biological anthropology at Monmouth University.

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Selected Recent Publications by CHES Members and Affiliates

Harmand, S., Lewis, J.E., **Feibel, C.S.**, **Lepre, C.J.**, Prat, S., Lenoble, A., Boës, X., **Quinn, R.L.**, Brenet, M., Arroyo, A., Taylor, N., Clément, S., Daver, G., Kent, D.V. & Roche, H. 2015. 3.3-million-year-old stone tools from Lomekwi 3, West Turkana, Kenya. *Nature*, 521:310-315.

Lorenzo, F. R., C. Huff, M. Myllymäki, B. Olenchok, S. Swierczek, T. Tashi, V. Gordeuk, T. Wuren, R. L. Ge, D. A. McClain, T. M. Khan, P. A. Koul, P. Guchhait, M. E. Salama, **J. Xing**, G. L. Semenza, E. Liberzon, A. Wilson, T. S. Simonson, L. B. Jorde, W. G. Kaelin Jr., P. Koivunen, & J. T. Prchal (2014) A genetic mechanism for Tibetan high-altitude adaptation. *Nature Genetics* 46(9):951-956

Palombit, R.A. 2014. Infanticide as sexual conflict: Coevolution of male strategies and female counterstrategies. In: *The Genetics and Biology of Sexual Conflict*, (W.R. Rice & S. Gavrilits, eds.), pp. 199-227. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York.

Scott, R.S., & A.W. Barr. 2014. Ecomorphology and phylogenetic risk: implications for habitat reconstruction using fossil bovids. *Journal of Human Evolution* 73: 47-57.

Ward, C.V., **Feibel, C.S.**, Hammond, A.S., Leakey, L.N., Moffett, E.A., Plavcan, J.M., Skinner, M.M., Spoor, F. & Leakey, M.G. 2015. Associated ilium and femur from Koobi Fora, Kenya, and postcranial diversity in early Homo. *J. Hum. Evol.*, 81:48-67.

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

evolution.rutgers.edu

