OSHER/CARTA MASTER CLASS I – Fall 2020

Special Topics in Human Origins

Course Schedule & Significant Dates:

- Wed, 30 September, 10:00 AM - 12:00 PM (PDT)
- Wed, 07 October, 10:00 AM - 12:00 PM (PDT)
- Wed, 04 November, 10:00 AM - 12:00 PM (PST)
- Wed, 25 November, 10:00 AM - 12:00 PM (PST)
- Wed, 02 December, 10:00 AM - 12:00 PM (PST)

The format is a live online one-hour lecture followed by live online question and answer period.

CARTA: The Center for Academic Research and Training in Anthropogeny

Established at UC San Diego in 2008, CARTA is an international cooperative research forum exploring questions of human origins through transdisciplinary interactions and collaborations. As the word "*anthropogeny"* implies, CARTA's primary goal is to apply transdisciplinary approaches to explaining two age-old questions regarding humans: Where did we come from? How did we get here?

CARTA embraces many activities. It hosts thrice-yearly (Winter, Spring, and Fall) free public symposia on human origins and related topics; it offers a specialization in Anthropogeny to graduate students at UC San Diego; it curates a Museum of Primatology (MOP); and is actively compiling a Matrix of Comparative Anthropogeny (MOCA) that highlights uniquely human differences from closely related primates. In this series of talks, five prominent UCSD scholars, all CARTA members, will address different topics related to human-origins research. **To learn more about CARTA, watch additional talks, and to support our mission, visit www.carta.anthropogeny.org and/or contact Community Engagement & Advancement Director, Lindsay Hunter (khunter@uscd.edu).**

Course Meetings

30 September (10-12 PM PDT)
Fossil Record of Human Origins
Professor Margaret Schoeninger, UC San Diego

This lecture focuses on the fossil record with an emphasis on ecological changes and associated dietary changes facilitating the appearance of anatomically modern humans (AMHs). We begin by tracing the evolution of the earliest primate-like mammals over 50 million years ago (mya), to the earliest monkey/ape-like primates about 29 mya, to apes and ape-like members of our own lineage between 23-5 mya. We end with members of our lineage in a unusually bushy portion of our family tree between around 5 and 1 mya leading to the subsequent appearance of AMHs around 180,000 years ago

Presenter: Margaret Schoeninger is Distinguished Professor Emerita of Anthropology, UC San Diego, and Co-Director of CARTA. She has a U. of MI Ph.D. and a UCLA post-doc in Earth and Planetary Sciences while in Cell Biology and Anatomy at Johns Hopkins SOM. Her research centers on primate subsistence strategies based on archaeological, paleontological, and ethnographic fieldwork projects in North America, Mesoamerica, Pakistan, India, Kenya, and Tanzania

07 October (10-12 PM PDT)
Evolution of the Human Diet
Professor Pascal Gagneux, UC San Diego

This lecture will discuss the evolution of the human diet in a comparative setting. It will highlight the importance of cultural inventions from hunting prey much larger than ourselves to processing and cooking food. All indications are that humans are now biologically dependent on the cultural practice of cooking.

Presenter:

Pascal Gagneux is Professor of Pathology and Anthropology at UC San Diego and Associate Director of CARTA. He received his PhD in Zoology at the University of Basel, Switzerland. His research focuses on the evolution of primate molecular diversity and how it is shaped by reproduction and infection.

Suggested resource(s): https://pgagneux.wixsite.com/website/resources

04 November (10-12 PM PST)
The Brains Behind Morality
Professor Patricia S. Churchland, UC San Diego

This lecture will discuss the concept of morality as it relates to human behavior. What are the social and neurobiological roots of moral behavior?

Presenter:

Patricia Smith Churchland is Professor Emerita of Philosophy at UC San Diego. She pioneered the subfield of Neurophilosophy, which works the interface between traditional philosophical questions and emerging results in neuroscience. Her recent work has focused on social neuroscience and ethology and what they reveal about moral motivation in humans and other mammals.

Suggested resource(s):

Churchland, P., 2019. *Conscience: The origins of moral intuition*. WW Norton & Company.

Churchland, P.S., 2018. *Braintrust: What neuroscience tells us about morality*. Princeton University Press.

25 November (10-12 PM PST)
THE EVOLUTIONARY ROOTS OF HUMAN SOCIALITY
Professor Federico Rossano, UC San Diego

Humans are social animals but so are many other animals. Yet compared to other non-human primates, humans appear to be more cooperative with each other, have greater control of their communicative signals and appear to spend more time interacting with each other. So, what is special about human social life? This lecture introduces some of the building blocks of social cognition that make social living possible without constant fighting. It presents these abilities through a developmental and evolutionary perspective and explains how scientists are trying to tackle the mystery of the primate mind through behavioral studies.

Presenter:

Federico Rossano is Assistant Professor in the Cognitive Science department at UC San Diego and director of the Comparative Cognition Laboratory. He received his PhD in Psycholinguistics from the Max Planck Institute for Psycholinguistics, Nijmegen (The Netherlands). He worked as a postdoctoral researcher at the Max Planck Institute for Evolutionary Anthropology in Leipzig (Germany). His research focuses on social cognition and the evolution of communicative abilities. He has conducted behavioral studies on adult humans

and children in several countries and among non-human animals on chimpanzees, bonobos, gorillas, orangutans, gibbons, macaques, marmosets, dogs, wolves, goats, and horses.

Suggested resource(s):

Call, J., 2018, November. On Space Geckos and Urban Apes. In *Diversity in Harmony: Insights from Psychology-Proceedings of the 31st International Congress of Psychology* (p. 42). John Wiley & Sons.

Laidre, M.E. and Johnstone, R.A., 2013. Animal signals. *Current Biology*, *23*(18), pp. R829-R833.

[SUBSTITUTION]
02 December (10-12 PM PST)
RISING STAR CAVE'S CHAMBERS OF SECRETS
Ms K. Lindsay Hunter, CARTA Community Engagement & Advancement Director, UC San Diego

This presentation reviews the 2013 Rising Star Expedition that recovered the first remains of the newly discovered human relative *Homo naledi* from Rising Star Cave and will bring the audience up to date with the most current science on the project including the second expedition that took place during September 2017. Findings include the surprisingly young age of the Dinaledi hominins and what is known about the more recently announced Lesedi Chamber (70 m from the Dinaledi Chamber) and its *Homo naledi* remains. Implications of all discoveries will be discussed as well as ongoing fieldwork in the Cradle of Humankind World Heritage Site (CoH WHS).

Presenter:

Lindsay is a trained paleoanthropologist as well as **CARTA's Community Engagement & Advancement Director.** In 2013, she was one of six Advance Cave Archaeologists (nicknamed the "Underground Astronauts") chosen to excavate the newly discovered human relative, *Homo naledi*, from deep within the Rising Star cave system in the Cradle of Humankind (South Africa). The Rising Star Expedition, as it was called, was directed by National Geographic Explorer-in-Residence Prof Lee Berger, and received the South African National Research Foundation's Science Team Award in 2014. Before joining CARTA, Lindsay developed and managed the National Geographic-sponsored "Umsuka" Public Palaeoanthropology Project in Johannesburg, South Africa from 2016-2019.

Suggested resource(s):

Townsley, G., 2015. Dawn of Humanity (Documentary). *Nova, PBS*. Season 42, Episode 15. https://www.youtube.com/watch?v=RzLJAa5X4Fo

Explorations: An Open Invitation to Biology Anthropology (CARTA Community Engagement Director, Lindsay Hunter, is an author on Chapter 9: Early Hominins.

Maropeng Virtual Lab LIVE: http://fossilpreplab.weebly.com/

[POSTPONED]
RECAP OF HUMAN ORIGINS
Professor Ajit Varki, UC San Diego

Describing briefly what is known about the origin of humans, this lecture will discuss how this information is relevant to many human diseases, including some that are unique to us as a species.

Presenter:

Ajit Varki is Distinguished Professor in the Departments of Medicine and Cellular and Molecular Medicine at UC San Diego and Co-Director of CARTA. He received training in physiology, medicine, biology, and biochemistry at the Christian Medical College, Vellore; The University of Nebraska; and Washington University in St. Louis. He also has formal training and board certification in internal medicine, hematology, and oncology. His research interests focus on a family of cell surface sugars called the sialic acids and their roles in biology, evolution, and disease, with a particular emphasis on changes unique to the human lineage.

Suggested resource(s):

Varki, A., 2019. Did Human Reality Denial Breach the Evolutionary Psychological Barrier of Mortality Salience? A Theory that Can Explain Unusual Features of the Origin and Fate of Our Species. In *Evolutionary Perspectives on Death* (pp. 109-135). Springer, Cham.

Varki, A. and Brower, D., 2013. Denial. *Self-deception, false beliefs, and the origins of the human mind, New York: Hachete*.

Varki, A., 2009. Human uniqueness and the denial of death. *Nature*, *460*(7256), pp.684-684.