



Newsletter of the National Evolutionary Synthesis Center, an NSF-funded collaborative research center operated by Duke University, the University of North Carolina at Chapel Hill, and North Carolina State University.

## IN THIS ISSUE:

Research Highlights	1, 3
Call for Proposals	4
Coming Soon	4, 7
Job Openings	4
In the Media	4
New Awards	5
Publications	7



Read about the winners of the 2013 Evolution Film Festival on page 5. Watch this year's finalists at [filmfestival.nescent.org/2013-entries/](http://filmfestival.nescent.org/2013-entries/).

## NEXT PROPOSAL DEADLINES:

**Dec. 1:** sabbaticals, catalysis meetings

**Jan. 1:** graduate fellowships, short-term visitors

**Jan. 15:** journalists-in-residence

For more information, see page 4 or visit [nescent.org/science/proposals.php](http://nescent.org/science/proposals.php)

## RESEARCH HIGHLIGHTS



A study of mortality and fertility patterns among seven species of wild apes and monkeys and hunter-gatherer humans shows that menopause sets humans apart from other primates.

BABOON PHOTO COURTESY OF SUSAN ALBERTS

## Hot flashes? Thank evolution

A study of mortality and fertility patterns among seven species of wild apes and monkeys and their relatives, compared with similar data from hunter-gatherer humans, shows that menopause sets humans apart from other primates.

Nonhuman primates aren't immune to the fading female fertility that comes with age, the researchers say. But human females are unique in living well beyond their childbearing years.

"Unlike other primates women tend to have a long post-reproductive life. Even before modern medicine, many women lived for 30 to 35 years after their last child was born," said co-author and NESCent Associate Director Susan Alberts.

In a study that appeared in the *Proceedings of*

the National Academy of Sciences, Alberts and colleagues from NESCent's Primate Life History Working Group compared mortality and fertility data for seven species of wild primates to similar data for the !Kung people of Southern Africa, a human population of hunter-gatherers with limited access to modern medicine or birth control.

The nonhuman primate data were based on long-term observations of 700 adult females, including capuchins in Costa Rica, muriqui monkeys in Brazil, baboons and blue monkeys in Kenya, chimpanzees in Tanzania, gorillas in Rwanda and sifakas in Madagascar.

This is the first study to compare humans with multiple primate species living in the wild.

see **HOT FLASHES**, p 8

**ABOUT NESCENT:**

NESCent is a scientific research center dedicated to cross-disciplinary research in evolution. The center's mission is to promote the synthesis of information, concepts and knowledge to address significant, emerging, or novel questions in evolutionary science and its applications. NESCent achieves this by supporting research and education across disciplinary, institutional, geographic, and demographic boundaries.

NESCent is a collaborative partnership between Duke University, the University of North Carolina at Chapel Hill, and North Carolina State University, and is funded by the National Science Foundation (award #EF-0905606). For more information about research and training opportunities at NESCent, visit [www.nescent.org](http://www.nescent.org).

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Informatics

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Associate Director  
of Education and Outreach

**STAY INFORMED**

Subscribe to the NESCent quarterly newsletter to receive news about the Center, research and training opportunities, and upcoming events. Comments, story ideas and photo contributions are welcome. Please send corrections and suggestions for future newsletters to Robin Smith at [rsmith@nescent.org](mailto:rsmith@nescent.org)

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## Letter from the director

Save the date! It's still months away, but planning is already well underway for Evolution 2014, to be held in Raleigh, North Carolina. From June 20-24, more than 1,200 scientists and science educators from across the globe will descend on the state capital to share the latest research in evolution.

NESCent is pleased to host the conference, in collaboration with scientists from Duke University, East Carolina University, North Carolina State University, the University of North Carolina at Chapel Hill, the University of North Carolina at Greensboro, and the North Carolina Museum of Natural Sciences.



**ALLEN  
RODRIGO**

We've received a number of suggestions for the 2014 meeting, and we're taking note. Here's how the program is shaping up, and how you can get involved:

- As in previous years, the meeting will kick off with a K-14 education workshop, society council meetings, and a welcome reception, followed by four full days of symposia, posters and concurrent sessions. Those interested in the intersection of biology, software and mathematics will also be able to participate in the 5th annual iEvoBio conference on evolutionary informatics.
- If this is your first trip to the Piedmont region of North Carolina, forget textiles and tobacco. Most conference events will take place at the LEED-certified Raleigh Convention Center in the heart of downtown Raleigh, just steps from the city's restaurants and hot spots. Attendees will be able to get around downtown on foot, or on the city's R-Line, a free hybrid bus service that connects more than 140 restaurants and clubs, art galleries, entertainment venues, museums and hotels in the downtown area. Buses run every 10-15 minutes, with a stop directly outside the Convention Center.
- We'll also have a full slate of field trips. Highlights include visits to the Duke Lemur Center, the world's largest sanctuary for rare and endangered prosimian primates; the Syl-

van Heights Waterfowl Park, the largest bird park in North America; and Carolina Beach State Park, one of the few places in the world where Venus Flytraps grow wild.

- A new feature of the program will be a half-day symposium on the contributions of synthetic science to the study of evolution. The year 2014 will mark the 10th anniversary of NESCent, and our last year of NSF funding. The center has been a long-running experiment in fostering synthetic research within the field of evolutionary biology. The symposium will include a panel discussion about the role for synthesis in evolution, the lessons learned from ten years' experience with NESCent, and the challenges and opportunities for synthetic evolutionary biology research looking forward.

Other highlights include...

- Undergraduates and biologists at minority-serving institutions will be invited to apply for travel awards to attend the meeting. Calls for applications typically go out in February. To receive details via email then, subscribe to the NESCent news list at [nescent.org/about/contact.php](http://nescent.org/about/contact.php).
- Scientists and science educators of all stripes will be invited to enter the fourth annual NESCent Evolution Film Festival. The finalists will be screened at Evolution 2014, where attendees will view and vote on their favorite films. The winners will receive a travel allowance to attend the scientific meeting of their choice.
- To continue the meeting's commitment to providing a family friendly environment, childcare will be available.

We expect registration to begin in early January 2014. Find the latest updates at [evolution2014.org/](http://evolution2014.org/), or follow the planning for the meeting on Twitter at @Evol2014.

I look forward to seeing you all at Evolution 2014, and I wish you a productive fall.



## RESEARCH HIGHLIGHTS

# Art and science meet to explore the human genetic journey

When artist Lynn Fellman submitted a sample of her DNA for genetic ancestry testing through the not-for-profit Genographic Project in 2005, the news that she could trace much of her heritage to Northern Europe was no surprise. But what got her attention was the revolution then underway in human genomics, and what the public was doing to take part.

“Who wouldn’t want to know the gene story of human evolution and be part of the discovery process? It was happening in real time, and I sent my DNA into the lab right away,” Fellman said.

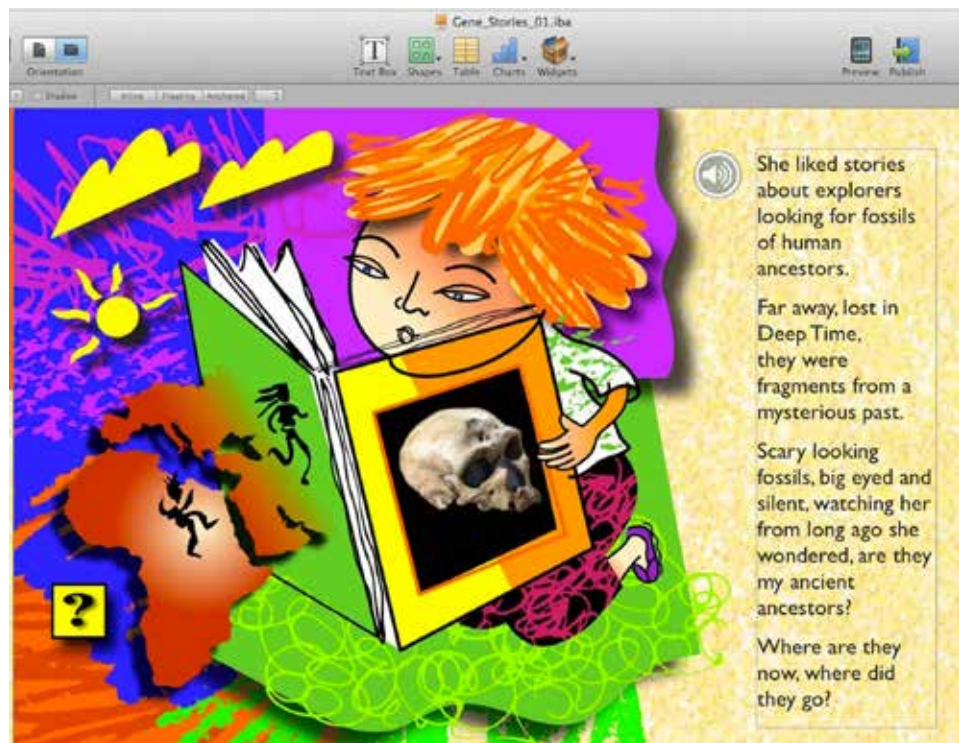
Since then, Fellman has worked with scientists and scientific organizations all over the world to translate complicated stories of human migration and evolution into art and narrative. During a three-month artist’s residency at NESCent, Fellman worked to write, illustrate, narrate and produce her latest project — a digital storybook, or e-book, that draws its inspiration from advances in molecular anthropology, sociology and human genetics.

In the following interview, Fellman told us more about her process for creating the book:

## What is the book about?

“Gene Stories” is an interactive e-book about two girls, an artist and a dancer, exploring genomic science to understand their genetic ancestry. Designed for parents and kids, the e-book introduces basic evolutionary biological concepts and examples from current research with colorful illustrations and narrated story.

Like the style of a children’s picture book, each page has one large digital painting with brief text that is narrated when the sound button is tapped. You may think the book is just for kids, but when you touch the question button, a window opens with



Artist Lynn Fellman has created an interactive e-book which introduces basic evolutionary concepts with colorful illustrations and a narrated story.

an explanation of the science behind the art and story. Designed to engage people in evolutionary science and ease them into the land of personal genomics, the e-book appeals on multiple intellectual levels.

The two characters are real people. I’m the artist in the story, which is loosely based on my real-life journey of integrating concepts of evolutionary genomics into my creative work. The dancer is Luisa Eliassen, a 14-year-old middle school student from the Faroe Islands.

As characters in the book, Luisa and I find our genetic ancestry is a colorful mix of inherited and novel variation that make us unique. Although we are one-of-a-kind, our DNA also connects to everyone now and deep into the past to distant ancestors and members of our extinct family. One small person’s gene story contributes to something much larger – the big book of the history of human evolution.

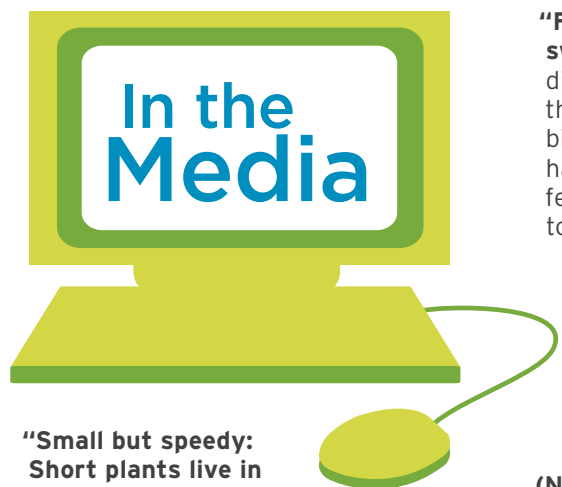
## Where did the idea for the project come from?

I was at a Personal Genomes meeting at Cold Spring Harbor Laboratory in 2010 when Bogi Eliassen, a program director at the Faroe Islands Ministry of Health, presented a visionary plan. He described FarGen, a project to sequence all 50,000 citizens of the Faroe Islands. Speaking with Bogi after his talk he told me, ‘science needs creative people from the arts and humanities to integrate new experiences into culture.’ I’ve been visualizing a book about gene stories ever since.

## What data did you collect for the project?

When I arrived at NESCent, the FarGen project and others were well underway. I asked Bogi for permission to include his family in my book and he agreed. Bogi is of Faroe Island Viking heritage, and he is

see ART & SCIENCE, p 6



**"Small but speedy:  
Short plants live in  
the evolutionary fast  
lane" (Eurekalert)**

Biologists have known for a long time that some creatures evolve more quickly than others. Exactly why isn't well understood, particularly for plants. But it may be that height plays a role. In a new study by NESCent visiting scientist Rob Lanfear, researchers report that shorter plants have faster-changing genomes. Read more at [bit.ly/10izhg3](http://bit.ly/10izhg3).

**"Fly like a hummingbird, glide like a swift" (Science)** A tiny bird fossil discovered in Wyoming offers clues to the precursors of swift and hummingbird wings. The fossil is unusual in having exceptionally well-preserved feathers, which allowed the researchers to reconstruct the size and shape of the bird's wings in ways not possible with bones alone. Learn more about NESCent postdoc Dan Ksepka's latest work at [bit.ly/14h4IUI](http://bit.ly/14h4IUI). Also picked up by Science News and Discover.

**"Do lemurs have personalities?" (National Geographic)** Anyone who has ever owned a pet will tell you that it has a unique personality. Yet only in the last 10 years has the study of animal personality started to gain ground with scientists. Now researchers have found distinct personalities in the grey mouse lemur, the tiny, saucer-eyed primate native to the African island of Madagascar. NESCent postdoc Jennifer Verdolin tells the full story at [bit.ly/13337uH](http://bit.ly/13337uH). Also picked up by Futurity, Audubon Magazine and Duke Today.

## COMING SOON

# Win a travel award for best evolution-themed blog post

Deadline: December 2, 2013

Are you a blogger who is interested in evolution? The National Evolutionary Synthesis Center is offering two travel awards to attend ScienceOnline2014, a science communication conference to be held February 26 – March 1, 2014, at North Carolina State University in Raleigh, NC.

The awards offer the opportunity to travel to North Carolina to meet with several hundred researchers, writers, editors and educators to explore how online tools are changing the way science is done and communicated to the public. Each winner will receive \$750 to cover travel and lodging expenses to attend the conference.

To apply for an award, writers should submit a blog post that highlights current or emerging evolutionary research. In order to be valid, posts must deal with research appearing in the peer-reviewed literature within the last five years. Posts should be 500-1000 words, and must mention the NESCent contest. Two recipients will be chosen by a panel of judges from both NESCent and the science blogging community. Please send your name, contact information, the title and date of your blog post, and a URL to [travel.award@nescent.org](mailto:travel.award@nescent.org). Winners will be notified by December 10, 2013.

For more information visit [blogcontest.nescent.org/](http://blogcontest.nescent.org/).



## Call for proposals

Looking for support for a graduate student, faculty sabbatical, short-term visit or meeting? NESCent welcomes your proposals. We are looking to support innovative approaches to outstanding problems in evolutionary biology. In particular, proposals that have a clear interdisciplinary focus, or involve evolutionary concepts in non-traditional disciplines, are strongly encouraged, as are proposals that demonstrate international participation and a mix of senior and emerging researchers, including graduate students.

Proposals for short-term visits are 2 weeks to 3 months. Proposals for sabbaticals may be for up to a full year. The next deadline for sabbaticals and catalysis meetings is December 1. For short-term visitors and graduate fellowships, the next deadline is January 1.

For more information, please visit [bit.ly/cfJUJx](http://bit.ly/cfJUJx).

## Job openings

Interested in employment opportunities at NESCent? Our center runs with the help of a dynamic team of programmers, financial experts, event planners, and other specialists. To find out about job openings as they become available, visit [nescent.org/about/employment.php](http://nescent.org/about/employment.php).



## AWARDS

## Congratulations to the newest award recipients for 2013

### GRADUATE FELLOWS

**Raunaq Malhotra (Penn State University)** *Methods for reconstructing viral haplotypes and their phylogenies based on DNA sequencing data*

**Benjamin Morris (University of North Carolina, Chapel Hill)** *GeoPhy: integrating geography and phylogenies to support marine biodiversity*

**Christopher Torres (University of North Carolina, Wilmington)** *Synthesizing phylogenetic, eco-morphological and fossil data to predict evolutionary rates among flamingos (Phoenicopteridae)*

### SHORT-TERM VISITORS

**Brad Oberle (George Washington University)** *Evolutionary and ecological consequences of mycorrhizal states in plants*

**Charles Pence (University of Notre Dame)** *The evoText Project*

**Mary Poss (Penn State University)** *Evolutionary dynamics of a recently colonized, transcriptionally active endogenous retrovirus*

**Laura Ross (University of Edinburgh)** *Major transitions in the evolution of invertebrate reproduction and sex determination*

**Vladimir Vershinin (Institute of Plant and Animal Ecology, Russia)** *A longitudinal study of amphibian populations in urban and natural environments*

**Peter Waddell (Ronin Institute)** *Information theory, robust statistics and diagnostics for phylogenomics*

**EVOLUTION EDUCATION AWARD FROM THE NATIONAL ASSOCIATION OF BIOLOGY TEACHERS** (co-sponsored by NESCent, BEACON, and BSCS)

**Paul Strode (Fairview High School in Boulder, CO)**

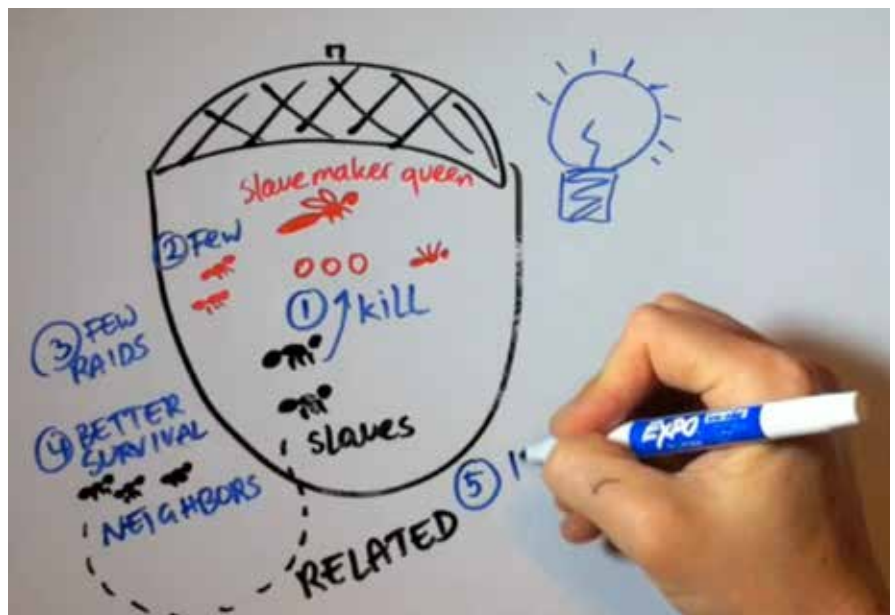
For more information about these scholars and their research projects, please visit [nescent.org/science/awards.php](http://nescent.org/science/awards.php).

## AWARDS

## Congrats to the winners of the 2013 Evolution Film Festival

The votes are in! Nearly one hundred people viewed and voted on their favorite short videos at NESCent's third annual Evolution Film Festival and video contest in Snowbird, UT, on Sunday June 23. We screened nine short evolution-themed films, each one three minutes or less. This year's winner was "Why Do Slave Ants Kill Slavemakers?" by Pleuni Pennings of Stanford University. This year's

runner-up was "Darwin's Theories," submitted by Celia Secades of the Elesapiens website. The first- and second-place winners will receive a travel allowance of up to \$1,000 and \$500, respectively, for travel expenses to attend a future conference of their choice. Thanks to our filmmakers for some fabulous films. Watch this year's finalists at [filmfestival.nescent.org/2013-entries/](http://filmfestival.nescent.org/2013-entries/).



Still from first-place winner "Why Do Slave Ants Kill Slavemakers?" above. Runner-up "Darwin's Theories" below.



## Dryad to charge for submissions starting September 2013

Starting September 1, 2013, all new submissions to the non-profit Dryad data repository ([datadryad.org](http://datadryad.org)) will be charged a one-time submission fee. Here's why the charges make sense, and what you can expect moving forward:

### Why the charges?

For the past five years, Dryad has been consulting with experts and stakeholders to develop a sustainability plan that will ensure that the scientific and medical research data archived in Dryad remains accessible free-of-charge to researchers, educators and students for many years to come.

The resulting plan — which includes revenue from submission fees, membership dues, grants and contributions — is designed to sustain core functions by offsetting the basic costs of curating and preserving data. The majority

of costs are incurred at the time of submission when curators process new files, and long-term storage costs scale with each submission, so this transparent one-time charge ensures that resources scale with demand.

### How do I know if I have to pay?

Many journals, societies, and publishers are already committed to absorbing the costs of data archiving in Dryad for their authors through one of Dryad's payment plans. Authors will only pay for deposits if they are not covered by an existing plan. For a list of journals and publishers who cover these costs on behalf of authors visit <http://bit.ly/126nibR>. In addition, authors from countries classified by the World Bank as low-income or lower-middle-income economies may request a waiver to submit data at no charge.

The charges became effective September 1, 2013. Authors who submitted their data prior to September 1 will not be charged, even if their submissions are accepted after that date.

### How much will it cost?

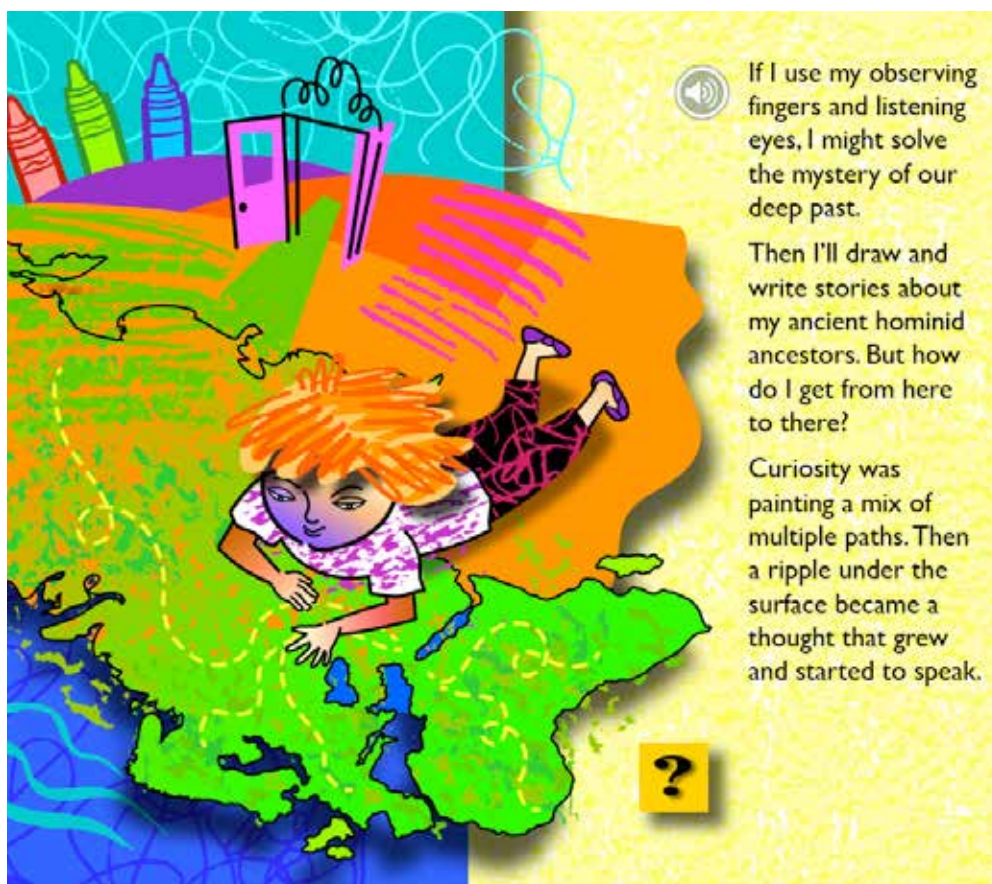
Dryad offers a variety of pricing plans for journals and other organizations such as societies, funders and libraries to purchase discounted submission fees on behalf of their researchers. For data packages not covered by a pricing plan, the researcher pays USD\$80 upon submission. Data archiving costs are usually an allowable grant expense. Waivers are provided to researchers from developing economies.

For a complete list of fees and payment options see [datadryad.org/pages/pricing](http://datadryad.org/pages/pricing).

## ART & SCIENCE, continued

married to Gisela, a woman of Peruvian heritage. They have three children, one of whom is Luisa. My family was willing to contribute their DNA as well, so I sent kits from the Genographic Project and 23andMe to everyone to start the twelve-week process of sequencing and analyzing their DNA. In addition to data from Y chromosome, mtDNA, and autosomes, the book references scientific papers for explanations about mutation rate, human variation, and the latest research in ancient DNA.

While waiting for the DNA results, Fellman is revising the sketches and story for her e-book, which is due to be published through Apple and available on iTunes later this year. ● *Fellman has worked as a professional artist since 1985. Read about her NESCent project at <http://bit.ly/16LQzr5>. See more examples of her work at [FellmanStudio.com](http://FellmanStudio.com).*





## COMING SOON

## Supporting Chicano and Native American scientists

**What:** SACNAS national conference

**When:** October 3-6, 2013

**Where:** San Antonio, TX

We're once again partnering with several organizations to put together an exciting suite of activities at the annual meeting of the Society for the Advancement of Chicanos and Native Americans in Science, also known as SACNAS, to be held this October in San Antonio, Texas.

If you happen to be going to this year's meeting, please join us for the following events:

- A free screening of the award-winning 2012 climate change documentary, **"Chasing Ice."** The film will be followed by a discussion/Q&A with a panel of scientific experts. We'll supply the popcorn! The event will be held Saturday, Oct. 5 from 9-10:30 pm in room 214 A/B, as part of "Evolution & Ecology at SACNAS 2013."

- **"Conversations with Scientists - Exploring Careers in Evolution & Ecology"** Thursday Oct. 3 from 6:30-8:15 pm in room 206A

- **"Evolution & Ecology: Impacting the Health of our Planet and Ourselves"** Scientific Symposium - Saturday Oct 5 from 4-5:30 pm in room 208

As always, the goals of these activities are to expose underrepresented minority students to ecology and evolution in greater depth, and to encourage them to consider pursuing graduate studies or careers in these fields. These events are sponsored by NESCent, BEACON, NIMBioS, NCEAS, and SSE. For more information, contact Dr. Jory Weintraub at [jory@nescent.org](mailto:jory@nescent.org).

## Celebrating the life and legacy of Alfred Russel Wallace

**What:** Evolution Symposium at NABT

**When:** November 22, 2013

**Where:** Atlanta, GA

If you're planning on attending the annual meeting of the National Association of Biology Teachers (NABT) in Atlanta this November, you won't want to miss the NABT Evolution Symposium organized by NESCent and BEACON. This year's symposium will celebrate the life and scientific legacy of Alfred Russel Wallace, the British naturalist and contemporary of Charles Darwin. The year 2013 marks the 100th anniversary of Wallace's death, and he is being remembered around the world for

his contributions to our understanding of concepts as basic and important as natural selection, island biogeography, warning coloration and speciation. This year's symposium focuses on Wallace's historical and scientific legacies and his often-misunderstood relationship with Darwin, as well as contemporary work in biogeography being conducted in Madagascar and Brazil. Speakers include James Costa (Western Carolina University/Highlands Biological Station), Ana Carnaval (City College of New York), Anne Yoder (Duke University/Duke Lemur Center) and Will Kimler (North Carolina State University).

The symposium will be followed by a

teacher workshop on Saturday, Nov. 23 from 11:15 AM to 12:30 PM. The workshop will provide participants with resources, ideas and strategies to introduce topics such as biogeography, natural selection and speciation in their classroom.

High school and community college science teachers are invited to apply by October 4 for a travel award to attend the conference. Find more information on how to apply at <http://bit.ly/15cQnxa>.

You can also find the talks from this year's symposium - along with activities, websites and other resources - after the meeting at [nescent.org/media/NABTSymposium2013.php](http://nescent.org/media/NABTSymposium2013.php).

## PUBLICATIONS

## Recent publications by NESCent authors

**Allen, G. and P. Unmack (2012).** "A new species of rainbowfish (Chilatherina: Melanotaeniidae), from the Sepik River system of Papua New Guinea." *Aqua, Journal of Ichthyology and Aquatic Biology* 14: 227-237.

**Alberts, S., et al. (2013).** "Reproductive aging patterns in primates reveal that humans are distinct." *PNAS*.

**d'Orgeix, C., et al. (2013).** "Northern Mexican gartersnakes, *Thamnophis eques* megalops, feeding on *Spea multiplicata* in an ephemeral pond." *Herpetological Review* 44(2): 213-215.

**Perez, K., et al. (in press).** "The EvoDevoCI: A concept inventory for gauging students' understanding of evolutionary developmental biology." *CBE-Life Science Education*.

**Ritz, J., et al. (2013).** "Evolutionary evidence for conserved alternative structures in RNA co-variation analyses." *PLoS Computational Biology* 9(7): 1-11.

**Rodríguez, R., et al. (2013).** "Diversification under sexual selection: the relative roles of mate preference strength and the degree of divergence in mate preferences." *Ecology Letters* 16: 964-974.

**Seddon, N., et al. (2013).** "Sexual selection accelerates signal evolution during specia-

tion in birds." *Proceedings of the Royal Society B* 280(1766)

**Smith, A. (2013).** "Avian fossils from the Early Miocene Moghra Formation of Egypt." *Ostrich: African Journal of Ornithology* In press.

**Uy, J. and R. Safran (2013).** "Variation in the temporal and spatial use of signals and its implications for multimodal communication." *Behav Ecol Sociobiol*.

**Wilkins, M., et al. (2013).** "Evolutionary divergence in acoustic signals: causes and consequences." *TREE* 28(3): 156-166.

## HOT FLASHES, continued

For each species, the researchers estimated the pace of reproductive decline — measured as the probability, at each age, that a female's childbirth will be her last — and compared it with the rate of decline in overall health, measured as the odds of dying with each passing birthday.

"This way we were able to compare the rate of aging in the reproductive system with the rate of aging in the rest of the body," Alberts said.

The results suggest that in nonhuman primates, reproductive decline is surpassed by declines in survival, so that very few females run out of reproductive steam before they die. A female baboon, for example, may live to age 19, and continues to reproduce to the end.

But in human females the reproductive system shuts down much more rapidly than the rest of the body. "Half of women experience menopause by the age of 50, and fertility starts to decline about two decades before that," Alberts said.

**"Even in human populations with little access to modern medicine, like the !Kung, most women survive for decades after their last child is born. Nonhuman primates rarely do that."**

—Susan Alberts, NESCent

What distinguishes a human female from her primate cousins is not that the human biological clock ticks faster, but that mortality is so much lower in humans than in other primates, according to work done by University of Utah anthropologist Kristen Hawkes, who was not an author of this study.

This study supports that idea, the researchers say. In both humans and chimpanzees, for example, female fertility starts to decline in the late 30s and early



What distinguishes a human female from her primate cousins is not that the human biological clock ticks faster, but that mortality is so much lower in humans than in other primates. PHOTO BY CARLA B. POSSAMAI

40s. "[But] even in human populations with little access to modern medicine, like the !Kung [hunter-gatherers in this study], most women survive for decades after their last child is born. Nonhuman primates rarely do that," Alberts said.

If evolution has given us longer lifespans than our primate cousins, why hasn't female reproduction kept pace? And in a world where individuals with more offspring tend to win the evolutionary contest, why shut down reproduction with decades of survival still ahead?

It may be that older females who forego future breeding to invest in the survival of their existing children and grandchildren gain a greater evolutionary edge than those who continue to reproduce. Once a baby chimp is weaned it can forage for itself, whereas human infants are nutritionally dependent long after they leave the breast.

"[Human children] can benefit greatly from having mothers and grandmothers who are still alive and not tied up with helpless infants," Alberts explained.

Another possibility is that mammalian eggs simply have a limited shelf life. According to this idea, we've extended our lives to the point where we've outlived our egg supply. A woman is born with

all the eggs she will ever have — in contrast to sperm, which men produce throughout their lives.

"Female African elephants seem to give birth into their 50s and occasionally into their 60s, so at least one mammal species appears to have surpassed the typical lifespan for mammalian eggs," Alberts said. "Female killer whales are the opposite — like humans their fertility peters out in their 30s and 40s, while they often live into their 70s. But there just aren't enough long-term data on other mammals to address the shelf-life hypothesis conclusively."

Alberts' co-authors are Jeanne Altmann of Princeton University, Diane Brockman of the University of North Carolina-Charlotte, Marina Cords of Columbia University, Linda Fedigan of the University of Calgary, Anne Pusey of Duke University, Tara Stoinski of the Dian Fossey Gorilla Fund International and Zoo Atlanta, Karen Strier of the University of Wisconsin-Madison, William Morris of Uppsala University and Duke University, and Anne Bronikowski of Iowa State University. ●

CITATION: Alberts, S. C. et al. (2013). "Reproductive aging patterns in primates reveal that humans are distinct." PNAS. Data available in the Dryad Digital Repository at [bit.ly/16WQrVv](https://doi.org/10.1101/16WQrVv)