



*Courtesy of the Emporia Gazette*

**James ABER**  
Earth Science  
Emporia State University

2011 **SCIENCE in KANSAS**  
150 years and counting

**James ABER** current

- Over the years, Aber's work in earth science has led him to remote sensing, which uses satellite imagery to look at the earth's landscape.
- Satellite images are taken from far away and often track things invisible to us, like global temperature. Computers take the data and color code it to provide map-like images. Red and yellow would be warm climates; blue and purple, cold ones.
- Using a giant kite with a remote control camera, he takes closer photos of some of the same landscapes as satellites. Scientists use these closer photos for comparison to understand in better detail the far-away images the satellites send.
- His photography has helped monitor the reclamation of Cheyenne Bottoms, a major bird migration site in central Kansas.

**EXTRA COOL:** Aber has used his kite aerial photography in Europe, Canada and across the U.S. to study how glaciers shaped and molded land in the Ice Age, some 10,000 to one million years ago. [www.adastra-ks.org](http://www.adastra-ks.org)



*Photo credit: Coriell Institute for Medical Research*

**Lewis CORIELL**  
Medicine  
Coriell Institute for Medical Research  
Camden, New Jersey

2011 **SCIENCE in KANSAS**  
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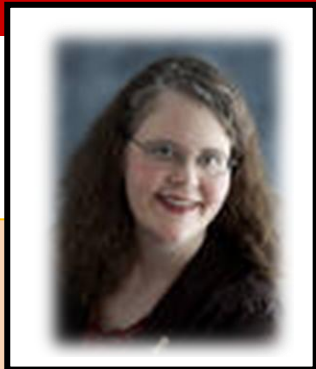
**Lewis CORIELL** 1911-2001

- Graduated from the University of Kansas School of Medicine in 1942.
- Pioneered techniques for freezing, and storing non-contaminated cell cultures in liquid nitrogen. This is considered one of the world's greatest contributions to modern human genetics.
- In the early 1950s, Dr. Coriell and colleagues at the Philadelphia Children's Hospital discovered a critical cell technology that enabled scientists to grow the polio virus and work towards the first vaccine.
- Chosen to evaluate the Salk polio virus vaccine clinical trials which led to the nationwide release of the vaccine—reducing new polio cases from 20,000 in 1955 to 3,000 in 1960.
- Developed air filtering techniques to keep labs and operating rooms sterile.

**EXTRA COOL:** In 1985, the Coriell Institute for Medical Research was named in his honor. It contains the world's most diverse collection of cell lines and DNA samples.

Project of the Ad Astra Kansas Initiative [www.adastra-ks.org](http://www.adastra-ks.org)

**Kansas Sesquicentennial 2011**



*Courtesy of Kristan Corwin*

**KRISTAN CORWIN**  
PHYSICS

Kansas State University



**Kristan CORWIN** current

- A laser can be made when light energy is fed into a gas. The energy is absorbed by an atom and another color of light results. The light bumps into more atoms, starting a chain reaction. More light releases, reflects and magnifies, putting out a powerful beam.
- Corwin has helped develop a new type of laser. It uses gas-filled hollow optical fibers that look like fishing line and have a honeycomb center. Light just invisible to the human eye shines into the fiber, pumping the gas, which emits in the infrared. The goal is a laser powerful enough to do distance ranging for the military, but not harmful to the human eye.
- Her work also connects with telephone and internet communications. Data is transmitted by sending pulses of light through optical fibers. The need for an even faster flow of information keeps growing.
- Corwin is looking for the best combination of colors of light, types of gasses and optical fibers that enable data to be sent at ever-increasing speeds.

**EXTRA COOL:** She has worked in France, using lasers to cool atoms to a billionth of a degree above absolute zero. [www.adastra-ks.org](http://www.adastra-ks.org)



*Credit: Pam Everhart*

**Mike EVERHART**  
Paleontology  
Sternberg Museum of Natural History, Hays

2011 **SCIENCE in KANSAS**  
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**Mike EVERHART** current

- Has collected fossils from the Smoky Hill Chalk of western Kansas for over 40 years.
- Is an expert on creatures that lived in the ancient seas covering Kansas and much of North America 85 million years ago. Has written two books on the sea creatures of this ocean area called the Western Interior Sea.
- Worked as a science advisor in the National Geographic 2007 IMAX film "Sea Monsters."
- Kansas has produced some of the best fossil finds in North America, including ones of the flying reptile *Pteranodon*, toothed flying bird - *Ichthyornis*, large marine lizards called mosasaurs and the *Elasmosaurus*, a 3-ton long-necked marine reptile with flippers.

**EXTRA COOL:** Everhart has more about these creatures at [www.oceansofkansas.com](http://www.oceansofkansas.com)

Project of the Ad Astra Kansas Initiative [www.adastra-ks.org](http://www.adastra-ks.org)