



Courtesy of Fundamental Technologies, LLC

Thomas ARMSTRONG

Space Physics
Fundamental Technologies, LLC, Lawrence

Thomas ARMSTRONG current

- Both at KU and on his own, Armstrong has worked with NASA for 40 years. He develops and uses advanced software to analyze raw computer data from spacecraft missions. He turns the readings into pictures, graphics and other information for NASA and the worldwide scientific community.
- His work includes the twin Voyager space probes (launched in 1977), the Galileo mission to Jupiter and the Ulysses mission to study the heliosphere.
- He also works with the Cassini observations of Saturn. Cassini took 7 years to get to Saturn, has been orbiting it for 7 years. It will cruise closer and closer until it crashes in 2017. All the while it will still be recording data. Cassini has found interesting things like steam and water geysers on Saturn.

EXTRA COOL: Now past Pluto and traveling to the edge of our solar system, Voyagers 1 and 2 will eventually escape into the interstellar space of our Milky Way Galaxy. Armstrong will be one of the first to see this data sent back from interstellar space.

Sesquicentennial project of www.adastra-ks.org

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



Credit: WSU Dept. of Psychology

Alex CHAPARRO

Human Factors Psychology
Wichita State University

Alex CHAPARRO current

- Human factors psychology starts with what is known about how humans solve problems, make decisions and recall information.
- Then this information, along with science and engineering principles, is used to design better equipment or ways of doing things that help improve speed, performance, safety or reduce error and fatigue.
- Chaparro and his team assisted in the design of a new ground control station for pilots and sensor operators of unmanned aircraft (like the Predator or Reaper) which the U.S. uses for anti-terrorism efforts. These pilots are flying aircraft in the Middle East from this control center in Nevada.

EXTRA COOL: Grew up in Puerto Rico. Traveled a lot as a kid as his dad was in the U.S. military. One place the family lived was in Alaska.

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2011 **SCIENCE in KANSAS**
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Courtesy of Carnegie Museum of Natural History

Mary DAWSON

Paleontology
Carnegie Museum of Natural History (CMNH)
Pittsburgh, Penn.

Mary DAWSON 1931-

- Paleontology is the study of life forms existing in prehistoric times.
- Earned a Ph. D. in zoology at the University of Kansas in 1957, at a time when few women earned doctoral degrees in any subject.
- During expeditions that started in the 1970s, she and her team discovered the first prehistoric fossils of land mammals in the Arctic Circle. This gave evidence that there once was a land bridge between North America and Europe and explained why fossils on both continents were similar. It also supported the theory that the continents drifted apart.
- Served as curator for 30 years at CMNH which has one of the largest vertebrate fossil collections in North America.

EXTRA COOL: In 2007, at age 76, she and team members on an expedition in Canada found fossils of a missing link between land and sea animals.

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Kansas Sesquicentennial 2011



Source: Fisher Space Pen Argentina website

PAUL C. FISHER

INVENTOR
FISHER SPACE PEN COMPANY

Paul C. Fisher 1913-2006

- Born in Ellsworth. Grew up in Lebanon, Kan.
- Earned bachelor of science degree at Kansas State University in 1939.
- Developed the Fisher Space Pen in 1965 for use by NASA. Astronauts had been using pencils. This was dangerous as leads could break and float around the cabins.
- The pen had special ink and a cartridge pressurized with nitrogen so it didn't need gravity to work. It could write upside down, underwater, on grease and in temperatures from -40 to 400 degrees F.
- It was first used in the Apollo 7 mission in 1968 and has been used by NASA and the Russian space programs ever since.

EXTRA COOL: In 1969 the pen played an added part in the Apollo 11 Mission to the moon. When a switch to start the Lunar Module jets for blast off from the moon broke, Buzz Aldrin used the hollow end of the pen to reach deep inside the switch and flick it, enabling firing of the jets.

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150th YEAR
and Counting
SCIENCE IN KANSAS
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