

Courtesy of KU NSF EPSCoR

Kristin BOWMAN-JAMES

Chemistry
University of Kansas

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

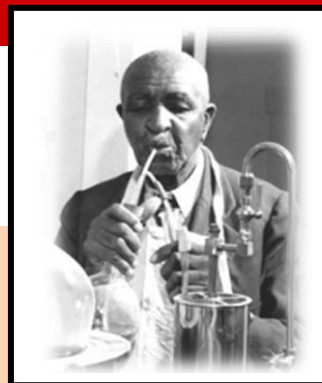
Kristin BOWMAN-JAMES current

- Works with anions. An anion is an atom or group of atoms with a negative charge. Common anions are fluoride (like in your toothpaste), chloride (in table salts) and phosphate (from the element phosphorus and used in detergents or fertilizers).
- Is developing molecules to capture these anions so they can be removed from places they are not wanted. This is important in areas like environmental cleaning.
- Also developing sensors to detect the presence of these anions, possibly by way of chemical reactions where anions would change colors.

EXTRA COOL: Directs a \$20 million research project funded by the National Science Foundation in which scientists in Kansas and Oklahoma study global climate change and do renewable energy research.

Project of Ad Astra Kansas Initiative www.adastra-ks.org

Kansas Sesquicentennial 2011



GEORGE WASHINGTON CARVER

BOTANY



George W. Carver 1864-1943

- Graduated high school in Minneapolis, Kan. He homesteaded near Beeler, in Ness County, in 1886. Two years later he sold his farm to pay for college.
- First black student and faculty member at Iowa State University.
- At Tuskegee Institute in Alabama, he discovered hundreds of uses for peanuts (including peanut butter), soybeans, sweet potatoes and pecans.
- Promoted the peanut as a crop in the South where cotton farming had depleted the soil.

EXTRA COOL: Carver is in the Hall of Fame for Great Americans, the National Inventors Hall of Fame and the USDA Hall of Heroes.

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Kansas Sesquicentennial 2011



Courtesy of KU Medical Center Archives

CREIGHTON HARDIN SURGERY

University of Kansas
Medical Center



Creighton Hardin

- Member of the KU School of Medicine faculty from 1952-1988. His specialty was surgery on blood vessels.
- He was the first surgeon to successfully fix an aortic aneurysm (a blood vessel that may burst) by replacing the weak part with a donated tissue graft.
- Always inventive, he sewed arterial replacement tubes for laboratory studies from nylon material bought at J.C. Penney's.
- In 1958, he performed the first kidney transplant in the Midwest.

EXTRA COOL: In 1971, he was the first surgeon in the world to reattach a completely severed upper arm with the return of function.

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Kansas Sesquicentennial 2011



Courtesy of Pinnacle Technology, Inc.

DONNA JOHNSON BIOLOGY

Pinnacle Technology, Inc.
Lawrence



Donna Johnson current

- Is developing new tools to help researchers understand what is happening in the brain.
- Tools include new ways to measure chemicals in the brain that are connected to diseases like depression, alcoholism or Parkinson's. Knowing this can help researchers diagnose a disease or know what drug is best to treat it.
- Has also designed wireless sensors that can measure sleep and seizure activity in the brain. Scientists can then better understand sleep patterns or how to treat sleep-related problems or epilepsy.
- Founded and is the Chief Executive Officer of Pinnacle Technology, Inc.

EXTRA COOL: Has also studied oceanography.

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