

COOL, WORLD-CHANGING SCIENCE?

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Ames Laboratory does that. The Ames Laboratory is the smallest of the U.S. Department of Energy's national labs, but we are mighty in scientific achievement. Our reputation was launched by our contributions to the Manhattan Project during WWII, but we haven't rested on that success. Our science has global reach.

SOME THINGS WE'RE PROUD OF:

Lead-free solder: Our lead-free alloy of tin-silver-copper has been widely adopted by the electronics industry for use in all types of devices, such as computers and cell phones, removing lead contaminants from the environment.

Sharper lasers: Ames Laboratory physicists designed and demonstrated the existence of photonic bandgap crystals, making it possible to develop more precise and efficient lasers.

Better analysis: Our pioneering work in inductively coupled plasma mass spectrometry, or ICP-MS, enables rapid and accurate determination of up to 80 elements in metals, alloys, and liquids, and is accurate down to levels of a few parts per trillion.

Revolutionized DNA sequencing: We developed the chemical analysis technique, multiplexed capillary electrophoresis, which is now the standard analysis tool used for DNA sequencing.

Super-slick materials: A ceramic coating made from an alloy of boron-aluminum-magnesium (BAM) can be applied to industrial surfaces to reduce friction and wear.

Next-generation refrigeration: In the future, refrigerators and air conditioners may be cooled using the magnetocaloric effect of an alloy of gadolinium-silicon-germanium to replace environmentally harmful chemical coolants.