

# Ames Laboratory

Shaping Science for 60 Years

*W*ith roots in the Manhattan Project and the development of a new process for refining uranium, Ames Laboratory has been a leader in the development, synthesis and characterization of new materials throughout its 60-year history. The accomplishments shown here represent just a few of the many scientific contributions that have come from the researchers at Ames Laboratory since its inception on May 17, 1947.

Frank Spedding and Harley Wilhelm led the uranium purification efforts during the Manhattan Project. Spedding later became the Lab's first director. ▶



Frank Spedding



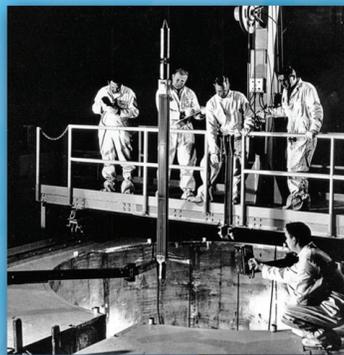
Harley Wilhelm

Art D'Silva, assistant chemist, shows the phosphor image intensifier screen that he and Velmer Fassel, deputy director, developed. ▶



1950

◀ A uranium biscuit produced using a bomb-reduction process discovered by Spedding and Wilhelm.



◀ Ames Lab operated a research reactor from the early 1960s to 1978.

Inductively coupled plasma-atomic emission spectroscopy. ▼

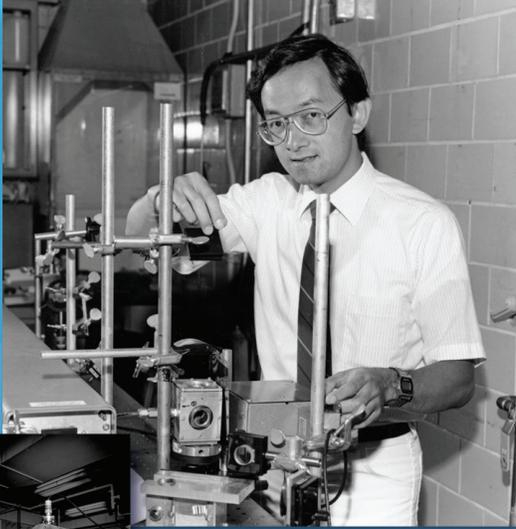
1960

1970



1940

# 1947 - 2007



▲ Ed Yeung is a multiple R&D 100 award-winner for separation technologies.



▲ Sam Houk adjusts inductively coupled plasma-mass spectrometry equipment used to provide ultratrace analysis for elements and isotopes.



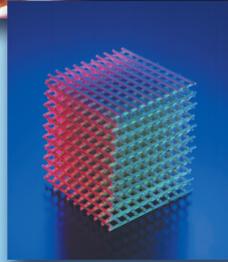
▲ Magnesium-diboride was shown to superconduct at temperatures higher than previously seen.

▶ Ames Lab is a recognized leader in quasicrystal research as well as the growth of single crystals.

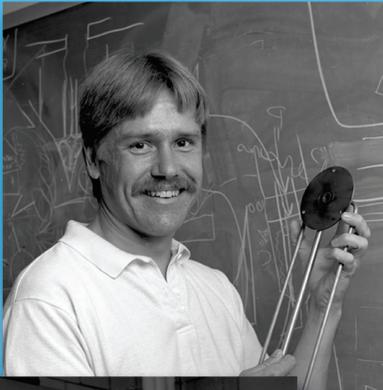


1990

▶ Photonic band-gap crystals offer the ability to control light the way semiconductors control electricity.



1980



◀ Iver Anderson holds a nozzle used in high-pressure gas atomization to produce ultrafine metallic powders.



◀ Magnetic refrigeration was proven possible using a gadolinium-silicon-germanium alloy developed by Karl Gschneidner and Vitalij Pecharsky.



◀ Lead-free solder developed at Ames Lab is licensed worldwide and has generated more than \$10 million in royalties.



◀ John McClelland developed an R&D 100 award-winning technology for a photoacoustic cell.

▶ Costas Soukoulis holds a photonic crystal that can negatively refract light.

