DOE R&D Accomplishments

www.osti.gov/accomplishments

Significant Outcomes from DOE Research and Development

The outcomes featured have had significant economic impact, have improved peoples' lives, or have been widely recognized as a remarkable advance in science.

The content spans from the historical Manhattan Project era (beginning in the 1940s) through more recent accomplishments, including the latest Nobel Laureates associated with DOE.

Free online access to the public

Searchable Database
specially-selected documents about noted accomplishments

Featured Topic pages
renowned scientists and their research; significant DOE research disciplines

Nobel Laureates
researchers associated with DOE and predecessor agencies

Enrico Fermi Laureates
scientists receiving Presidental Award

Snapshots
quick pictures, introductions, overviews or synopses of DOE accomplishments

Insights
unique, interesting, and wide-ranging

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Interesting Insights into DOE researchers

www.osti.gov/accomplishments/insights.html

- discovered over eight elements on the Periodic Table
- decoded three DNA chromosomes
- developed the battery that powered the lunar lander module and other spacecraft
- discovered the first binary pulsar
- created pre-Pong video game
- contributed to nuclear medicine
- discovered the phenomenon called the Lamb Shift
- discovered the K-meson
- discovered the tau lepton
- discovered asymptotic freedom in the theory of strong interaction
- discovered the fullerenes molecule *(Buckyball)*
- discovered blackbody form and anisotropy of the cosmic microwave background radiation
- invented the cyclotron *(an early accelerator)*
- invented the calutron (*an isotope separator)*
- invented the bubble chamber
- developed the Eightfold Way, a theory of Strong Interaction Symmetry
- developed the 'electroweak' theory
- developed the nuclear shell model
- developed the neutron diffraction technique
- developed Ultra Violet Waterworks
- first detected solar neutrinos
- first detected the neutrino
- first observed the top quark
- provided evidence as to why dinosaurs are extinct
- provided the concept of the Cooper pairs
- provided the Bloch Equations
- provided the Feynman Diagrams
- created the first self-sustaining nuclear chain reaction
- established international computer communication in 1970
- formulated the process for adenosine triphosphate
- confirmed the third branch of life (the microbe Archaea)