



# Energize.

Expanding the vision since 1969.

# ASTROPHYSICS

Known for outstanding scientific **analyses of the universe** spanning the **electromagnetic spectrum**, USRA physicists engage in **full-circle investigations** - from theory to experiment design to **hardware development** to data evaluation.

## HIGH ENERGY ASTROPHYSICS

Central to modern astrophysics, **high energy** bands (including the **extreme-UV**, X-ray and **gamma-ray**) allow USRA scientists to study the physics of **black holes**, neutron stars, **supernovae**, interacting binaries, soft gamma repeaters and anomalous X-ray pulsars, transient accreting pulsars, and **gamma-ray bursts**, their afterglows, and host environments. USRA also supports research and development projects in **cosmic ray physics** and solar and space physics. Efforts in these areas help us understand the **origin**, structure, and **destiny of the Universe**.

## FLIGHT HARDWARE & INSTRUMENTATION

USRA scientists have **end-to-end** expertise in the design, development, and deploy-

ment of flight hardware, sensors, and **instrumentation**. USRA scientists play key roles in the development of instruments for **orbital** and sub-orbital missions, **deep-space systems**, and aircraft and high-altitude platforms like the **Fermi Gamma-ray Space Telescope** and the Solar Terrestrial Relations Observatory.

## DATA MANAGEMENT

USRA scientists are experts in **data standards** and maintenance, interconnectivity, private cloud storage, data browsing and retrieval, and other state-of-the-art data management and mining capabilities. USRA has extensive experience maintaining and cataloging **astrophysics imagery archives** for the science community.

## WHO ARE WE?

USRA is an independent, nonprofit research corporation where the combined efforts of in-house talent and university-based expertise merge to advance space science and technology. USRA works across disciplines including **biomedicine**, **astrophysics**, and **engineering** and integrates those competencies into applications ranging from **fundamental research** to **facility management** and **operations**. USRA engages the creativity and authoritative expertise of the research community to develop and deliver sophisticated, **forward-looking solutions** to Federal agencies and other customers - on schedule and within budget.

