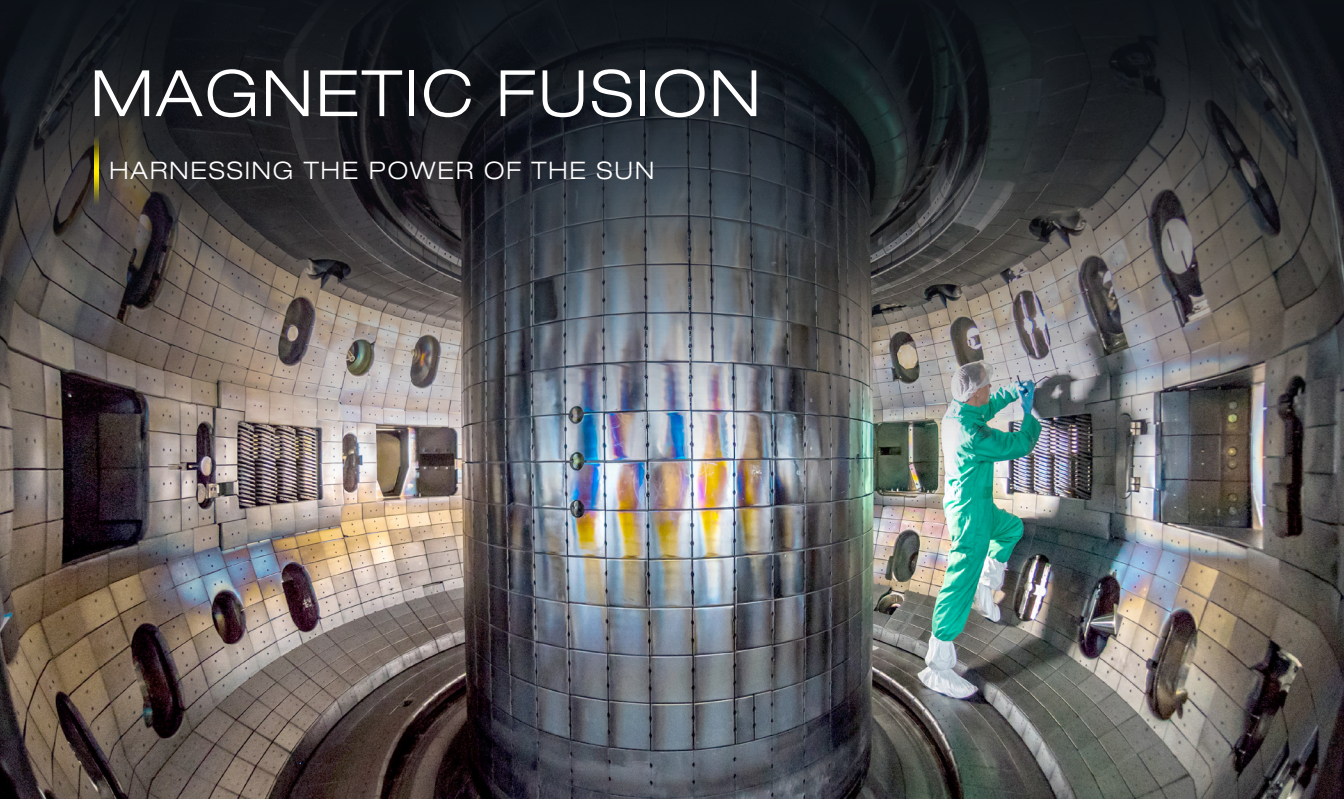


# MAGNETIC FUSION

HARNESSING THE POWER OF THE SUN



DIII-D NATIONAL FUSION FACILITY

Learn more at [www.ga.com/energy](http://www.ga.com/energy)



## PATHWAYS TO CAREERS IN FUSION



MATHEMATICS



PHYSICS



CHEMISTRY



HONORS/AP  
COURSES

## WHAT IS FUSION?

When two light nuclei fuse to create a single heavier one, large amounts of energy are released. Fusion is far more efficient than other methods of energy production, producing millions of times more energy per gram of fuel than burning oil.

## WHY FUSION MATTERS

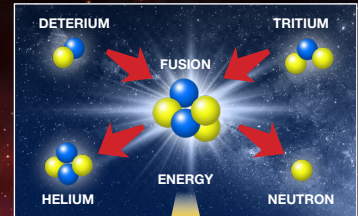
Fusion is capable of providing nearly limitless, zero-emission, always-on energy. It has no risk of meltdowns and produces no long-lived nuclear waste. The revolutionary potential of fusion as an energy source is attracting growing attention.



### COVER IMAGE

General Atomics operates the DIII-D National Fusion Facility and is pioneering the science and innovative techniques needed to develop fusion as an energy source for the next generation.

## FUSION: LIMITLESS CARBON-FREE ENERGY



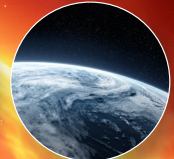
SAFE



CLEAN



ABUNDANT



AVAILABLE

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# MAGNET TECHNOLOGIES

BUILDING THE WORLD'S LARGEST PULSED ELECTROMAGNET

GENERAL ATOMICS IS FABRICATING THE CENTRAL SOLENOID FOR ITER

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## ITER CENTRAL SOLENOID MANUFACTURING

ITER is an unprecedented scientific collaboration of 35 nations that will prove the feasibility of fusion as a means of producing virtually limitless safe, clean, and renewable energy. When completed, ITER will be the largest magnetic fusion device in the world.

General Atomics is fabricating the Central Solenoid – the world’s most powerful pulsed superconducting electromagnet – for ITER, which is located in France and is expected to be operational in 2025. GA is also fabricating advanced waveguides and diagnostics for ITER.

Each 250,000-pound superconducting electromagnet is fabricated from 3.6 miles of superconducting cable.



Learn more at [www.ga.com/energy](http://www.ga.com/energy)



# INERTIAL CONFINEMENT FUSION

BRINGING THE POWER OF THE STARS TO EARTH



PRECISION COMPONENTS, RESEARCH AND DEVELOPMENT, NANOSCALE METROLOGY

Learn more at [www.ga.com/energy](http://www.ga.com/energy)



#### PATHWAYS TO CAREERS IN FUSION



MATHEMATICS



PHYSICS



CHEMISTRY

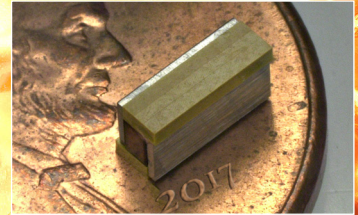
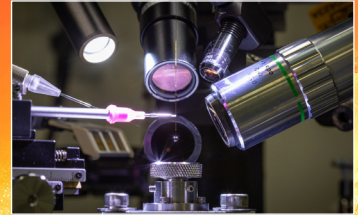


HONORS/AP  
COURSES

## ADVANCED LASER TARGETS, DIAGNOSTICS, MACHINING AND SENSORS

Inertial Confinement Fusion (ICF) uses powerful laser beams to compress and heat hydrogen atoms within a target capsule the size of a pencil eraser to temperatures of 100 million degrees Celsius. As a leader in precision manufacturing, General Atomics (GA) utilizes custom-built micro-machining and additive-manufacturing (3D printing) capabilities to fabricate these target capsules and other components at sub-millimeter scales.

General Atomic's skilled scientists, engineers and technicians also design and deliver a wide variety of important diagnostic instruments and systems for magnetic fusion, ICF, and other applications.



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