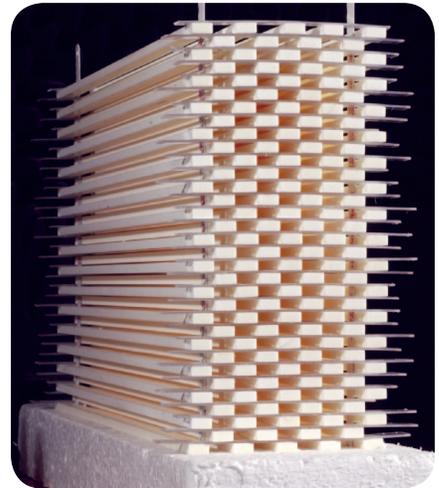




THE Ames Laboratory
Creating Materials & Energy Solutions

Did You Know?

- ◆ Ames Laboratory scientists have won 16 prestigious R&D 100 Awards. Referred to as the “Oscars of Applied Science,” the awards recognize the most promising new technologies.
- ◆ Ames Laboratory was named the Federal Laboratory Consortium’s 2007 Outstanding Laboratory for the Mid-Continent Region, honoring technology transfer achievements.
- ◆ Ames Laboratory’s innovative research has led to new technologies that have helped launched 24 Iowa companies.
- ◆ An Ames Lab senior metallurgist’s patented lead-free solder formula is now licensed by more than 60 companies worldwide to help meet legislation banning lead from consumer products.
- ◆ An Ames Laboratory student went on to help researchers confirm the existence of element 106, seaborgium, a type of primordial plutonium.
- ◆ An Ames Laboratory scientist was the first person to quantitatively analyze the chemical content of a single human red blood cell, using a device he designed and built.
- ◆ Ames Laboratory’s Materials Preparation Center produces the purest rare-earth materials used in academia and industrial research today.
- ◆ Ames Laboratory is a leader in quasicrystal research as well as the growth of single crystals.
- ◆ An Ames Laboratory senior physicist helped create left-handed materials, which exhibit fascinating properties that cannot be found in naturally occurring materials. The creators were awarded the European Union’s highest honor in the field of science.
- ◆ An Ames Laboratory developed analysis tool that helped the Food and Drug Administration trace the batch of potassium cyanide used to contaminate the Tylenol capsules that killed seven people in Chicago on a single day in September 1982.
- ◆ Ames Laboratory physicists were the first to design and demonstrate the existence of photonic bandgap crystals, making it possible to develop more precise and efficient lasers.



This photonic crystal has a negative index of refraction equal to -1, providing excellent subwavelength resolution. A negative index of refraction equal to -1 is needed to achieve a perfect image.

- ◆ Ames Laboratory scientists developed the process to produce large quantities of high-purity uranium metal for the Manhattan Project, producing 2 million pounds of the product.
- ◆ Since 1947, approximately 1,500 Ph.D.s have been awarded by Iowa State University to students who performed their research in the physical sciences under the auspices of the Ames Laboratory.

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