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## Navy, University of Buffalo co-developing all electric warship

Posted Dec 26, 2007 at 05:35AM by [Enrico S.](#) Listed in: [Engineering](#) Tags: [Cemal Basaran](#)  
**8 QJ**

The University of Buffalo is currently assisting the U.S Navy in the development of a new all-electric warship which is expected to be operational by 2012. If this venture is successful, the ship will only require a crew of one hundred, which is much more efficient than the battleships in service now which require thousands of people.



According to the Navy, the biggest problem they're currently facing in designing the ship is the fact that the current generation of shipboard electrical systems cannot distribute electrical power to the entire ship. This would make the use of advanced weapons and sensors which require a lot of power impractical.

To solve this problem, [Cemal Basaran](#), the director of the Electronic Packaging Laboratory in the UB School of Engineering and Applied Sciences, was given a US\$ 500,000 grant to design the next-generation of power electronics. Specifically, units which are capable of carrying high-current density and high power to the entire warship. He said that the developments he plans on introducing will be a major step in modern warship designs:

The next-generation power electronics that will control the ship will lead to major improvements in effectiveness, survivability and cost savings, as well as a significant reduction in the size of the vessel's components.

If that sounds complicated, it is. Basaran said that he plans on using both nano and microelectronics for the system. He added that both technologies will be a critical component of the system.

He explained why these were needed:

The state-of-the art electronic packaging technology cannot handle the huge electrical power needed by an electric ship's warfare and civilian components in micron and nanoscale packages.

Right now most electrical components are huge and waste too much power, but they don't need to. We can reduce their size and waste by orders of magnitude, while increasing their ability to handle high current-density and high-power levels in harsh environments, significantly.

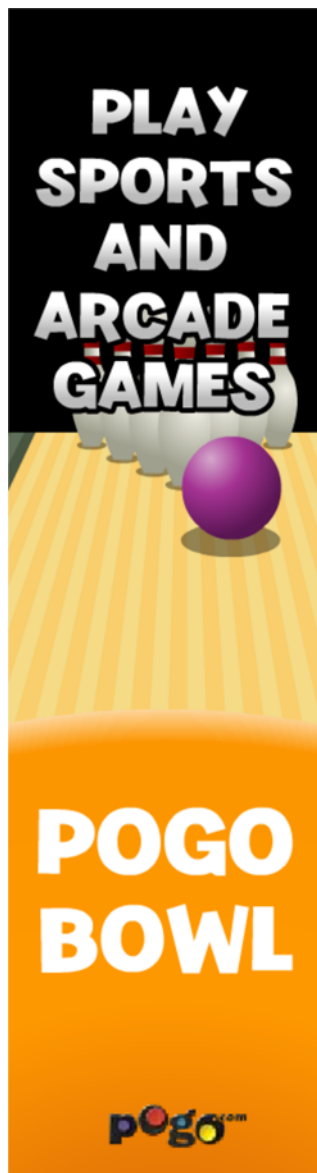
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Are unidentified flying objects (UFOs) really alien spaceships?

- Yes, Scully. Aliens are here. Among us.
- Alien life may exist out there. But I doubt their spaceships have gotten to Earth.
- UFOs are mundane things. Satellites, military experiments, weather balloons, mass hysteria... take your pick.
- UFOs are unexplainable phenomena. Ghosts, spirits, acts of ancient gods, fairies. Look to the skies and believe!
- This is a boring topic. UFOs? Who cares? Can't we talk about genetic research or absolute zero?

Earth Science

- [Alternative Energy](#)  
(93)
- [Animals and Wildlife](#)  
(292)
- [Environmental Campaigns](#)  
(152)
- [Environmental Disasters](#)  
(36)
- [Geology](#)  
(33)
- [Global Warming](#)  
(122)
- [Natural Disasters](#)  
(31)
- [Natural Resources](#)  
(33)
- [Oceans](#)  
(53)
- [Paleontology](#)  
(62)
- [Plants and Agriculture](#)  
(66)
- [Weather](#)  
(49)

- [Archaeology](#)

(67)

- [Biology](#)

(112)

- [Chemistry](#)

(52)

- [Computer Science](#)

(64)

- [Engineering](#)

(124)

- [Geography](#)

(4)

- [Mathematics](#)

(25)

- [Nanotechnology](#)

(30)

- [Neurology](#)

(32)

- [Physics](#)

(83)

- [Psychology](#)

(48)

- [Site News](#)

(31)

Health Science

- [Alternative Medicine](#)

(67)

- [Biomedical Technology](#)

(173)

- [Diseases](#)

(202)

- [Genetics](#)

(105)

- [Medical Devices](#)

(72)

- [Mental Health](#)

(147)

- [Self Well-being](#)

(254)

## Space

- [Astrobiology](#)

(30)

- [Astronomy](#)

(204)

- [Astrophysics](#)

(127)

- [Celestial Bodies](#)

(379)

- [International Space Station](#)

(83)

- [Interviews](#)

(2)

- [NASA](#)

(143)

- [News](#)

(468)

- [Space Exploration](#)

(170)

- [Space Missions](#)

(196)

- [Spacecraft](#)

(234)

#### Archives

- [September 2008](#)

- [August 2008](#)

- [July 2008](#)

- [June 2008](#)

- [May 2008](#)

- [April 2008](#)

- [March 2008](#)

- [February 2008](#)

- [January 2008](#)

- [December 2007](#)

- [November 2007](#)

- [October 2007](#)
- [September 2007](#)
- [August 2007](#)
- [July 2007](#)
- [June 2007](#)
- [May 2007](#)
- [April 2007](#)
- [March 2007](#)
- [February 2007](#)
- [January 2007](#)
- [December 2006](#)
- [November 2006](#)
- [October 2006](#)
- [September 2006](#)
- [August 2006](#)
- [July 2006](#)
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- [May 2006](#)
- [April 2006](#)
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