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POPULAR MECHANICS ANNOUNCES
WINNERS OF THE 2005 ‘BREAKTHROUGH AWARDS’

Awards to be Presented in Intimate Ceremony at the American Museum of Natural History, NYC

NEW YORK, NY (September 29, 2005) – POPULAR MECHANICS, one of the largest and most trusted men’s monthly magazines, reaching nine million readers, will announce the winners of the first annual "POPULAR MECHANICS Breakthrough Awards" this evening at the American Museum of Natural History in New York. The POPULAR MECHANICS Breakthrough Awards recognize individuals, teams, and products that are helping to improve lives and expand possibilities in the realms of science, technology and exploration.

Editor-in-chief James Meigs will present the following winners with a 2005 POPULAR MECHANICS Breakthrough Award during an awards presentation held at the American Museum of Natural History:

Breakthrough Leadership Award

• Hugh Herr - MIT Researcher: Herr is an innovator in the field of assistive technologies for the disabled that can allow amputees to walk, run and climb—and which may one day grant movement to the victims of spinal-cord injuries. Herr has created the Rheo Knee™, an artificial knee with a microprocessor that continually senses the joint’s position and the loads applied to the limb. The prosthetic knee has been available from the Icelandic company Össur since February and Herr’s advances in rehabilitative prosthetics and biomimetic augmentation have made it possible for thousands of amputees to lead more active lives.

Young Achiever Award

• Sarah Mims: While still in high school, Mims developed an innovative kite-borne experiment that proved the existence of living fungal spores in smoke drifting over Texas from fires in Central America. Now a sophomore in college, Mims will receive a cash grant to help further her studies.

Breakthrough Reader Project Award

• Sarah Pickens & Tim Pickens: This father/daughter team from Huntsville, AL will be honored for their backyard creation of a pair of rocket-powered bicycles. Tim Pickens, whose company, Orion
Propulsion, develops rocket engines for projects including Burt Rutan’s SpaceShipOne, used his expertise to mount a small rocket engine on an ordinary mountain bike, which can hit 60 miles per hour. Sarah’s bicycle operates on cold carbon dioxide and can hit speeds of 30 mph.

Breakthrough Awards: Celebrating Innovation in Science and Invention

- **John Donoghue – Brown University Professor, Co-founder of Cyberkinetics Neurotechnology Systems**: created the world’s first self-contained Brain-Computer Interface chip that allows severely handicapped patients (including the paralyzed and victims of illnesses such as ALS) to operate computers with their minds.

- **Kenneth Klabunde**: created FAST-ACT (First Applied Sorbent Treatment - Against Chemical Threats), a nanopowder that quickly neutralizes toxic chemicals, including chemical warfare agents, providing a lifesaving – and widely deployable – defense against terrorist attack and industrial disaster.

- **Captain Michael Potratz/David Russell (Designer/fabricator)**: for the creation of a swiveling gun mount that gives military Humvees extra mobility and better capabilities for self-defense.

- **Scramjet Team – NASA, ATK GASL, Orbital Sciences Corporation**: for the creation of the X-43A Scramjet, NASA’s research vehicle that demonstrated how an air-breathing engine can fly at nearly 10 times the speed of sound. It could power future space launch vehicles.

- **David Wettergreen & Team – Carnegie Mellon Robotics Institute, NASA sponsored**: for the breakthrough design of Zoe, an autonomous robot being groomed to seek and identify life in hostile environments. The project is part of NASA’s Astrobiology Science and Technology Program for Exploring Planets.

- **Alan J. Heeger – UC Santa Barbara professor, Co-founder, Konarka**: for a major advance in solar power. His light-activated power plastic— inexpensive, lightweight, flexible and versatile— makes it possible for devices like cell phones and portable computers to have their own low-cost embedded sources of renewable power.

- **Hong Liu, Bruce Logas, Stephen Grot – Pennsylvania State University Researchers Collaborating with Ion Power, Inc.**: for the invention of a microbial fuel cell that produces hydrogen gas—the miracle fuel of tomorrow—while cleaning wastewater.

Breakthrough in Product Design and Engineering

- **AMD Athlon 64 x2 Dual-Core Microchip**: this dual-core microchip brings supercomputer technology to home PCs, and will help computers handle tomorrow’s multimedia applications.

- **Apple Tiger Operating System**: its Spotlight search tool represents a major advance in helping users find data on their computers.

- **First Alert OneLink Smoke Detectors**: a combination smoke and carbon monoxide alarm, this device wirelessly relays news of an emergency to every alarm in the home.

- **GM 3.9-liter V6 Engine**: brings variable valve timing to an engine with single camshaft mounted in the block, providing superior performance and efficiency at reasonable cost.

- **Lexus IS 250/350 Twin-Chamber Airbag**: a refinement to the lifesaving technology, this twin-chamber design reduces the risk of head and neck injuries.

- **Microsoft Xbox 360**: this high-definition machine is powered by a triple-core CPU and is poised to kick-start the next era of hi-def gaming.

- **Milwaukee V28 Cordless Power Tool Line**: the first major tool line to use a lithium-ion battery
instead of a nickel-cadmium, producing 28 volts instead of the competition’s 18 volts.

- **Sling Media Slingbox Media Distribution System**: allows entertainment and information content to be streamed to any computer on a network, or even across the Internet.

- **Stanley FatMax TLM100 Laser Measuring Device**: puts professional level precision in the hands of home DIY builders.

- **Tom Tom Go 700 with Bluetooth**: this navigation system features a 2.5GB hard drive pre-loaded with complete U.S. and Canadian maps, and it can link via Bluetooth with a phone for hands-free voice dialing as well as services that include real-time traffic data.

“We’re thrilled to salute these innovators and products that are helping to shape the world’s future through science and technology,” said James Meigs, editor-in-chief of *POPULAR MECHANICS*. “Our magazine has always been devoted to highlighting innovations that have the potential to improve our lives, and this year’s honorees do just that.”

Those honored represent a diverse range of fields including robotics, medicine, aeronautics and chemistry. Their innovations promise to improve lives and increase our understanding of the world.

**Criteria and Evaluation**

In selecting the candidates and winners of the 2005 Breakthrough Awards program, the editors of *POPULAR MECHANICS* canvassed a large range of experts and academics to come up with a list of worthy nominees. The magazine also assembled a 10-person advisory panel comprised of outstanding scientists, engineers, authors and innovators from a variety of fields. The advisory panel then reviewed the nominations and, along with the editorial board of *POPULAR MECHANICS*, voted on the final winners. The 2005 advisory panel included:

- **Shawn Carlson**: founder, the Society for Amateur Scientists
- **Will Clift**: consultant with the Energy and Resources Services team, Rocky Mountain Institute
- **David E. Cole**: chairman of the Center for Automotive Research; industry analyst
- **Brian Cooley**: editor-at-large of CNET Networks
- **Tom Harris**: editorial director, How Stuff Works
- **Donald Keck**: co-inventor, at Corning, of fiber optic cable; board member of the Inventors Hall of Fame
- **Virginia Postrel**: *New York Times* columnist; former editor of *Reason Magazine*
- **Paul Saffo**: director, Institute for the Future
- **William A. Wulf**: president, National Academy of Engineering
- **Carl Zimmer**: author of *Soul Made Flesh: The Discovery of the Brain—and How It Changed the World*

A complete report of the Breakthrough Awards will be published in the November 2005 issue of *POPULAR MECHANICS* (on newsstands October 11, 2005) and high-resolution images of the winners will be available upon request and at [www.popularmechanics.com](http://www.popularmechanics.com).

**About POPULAR MECHANICS**

*POPULAR MECHANICS* is published by Hearst Magazines, a unit of The Hearst Corporation (www.****
hears.com) and one of the world’s largest publishers of monthly magazines, with a total of 19 U.S. titles and 142 international editions. Hearst reaches more adults than any other publisher of monthly magazines (76.3 million according to MRI, spring 2005). The company also publishes 19 magazines in the United Kingdom through its wholly owned subsidiary, The National Magazine Company Limited.

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