

OVER THE MOON

Space is hardly the final frontier for peripatetic scientist Dava Newman.

BY CHRISTINE LIU

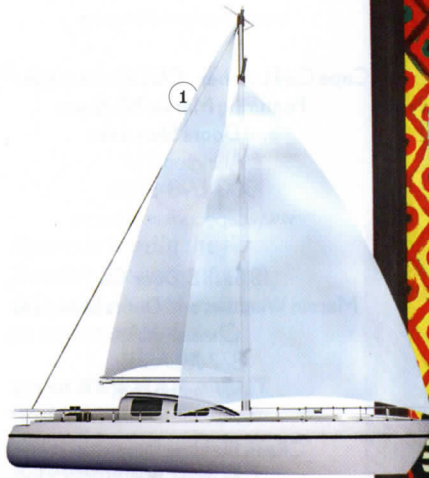
DAVA NEWMAN, an MIT professor and director of the school's technology and policy program, lives and breathes exploration. Whether orbiting the earth on the space shuttle, designing a biomedical "second skin" for children with cerebral palsy, or simply playing the bongos, she's always seeking novel ways to do things. Take the aeronautics and astronautics specialist's signature breakthrough, the Bio-Suit: The light, flexible astronaut garment is now on exhibit at the American Museum of Natural History in New York.

Even when on sabbatical, Newman has trouble sitting still. She's currently taking five months to sail from Marblehead to Guatemala, with stops in Mexico, Belize, Honduras, and the Bay Islands. "Please excuse all of the typos, and it'd be great if you can correct them," she writes to me while aboard the vessel. "I only have my iPad, and we are rocking and rolling out here in about 10-foot seas."

Where does this lifelong voyager find inspiration? Turn the page to find out. »



Dava Newman in her signature Bio-Suit.



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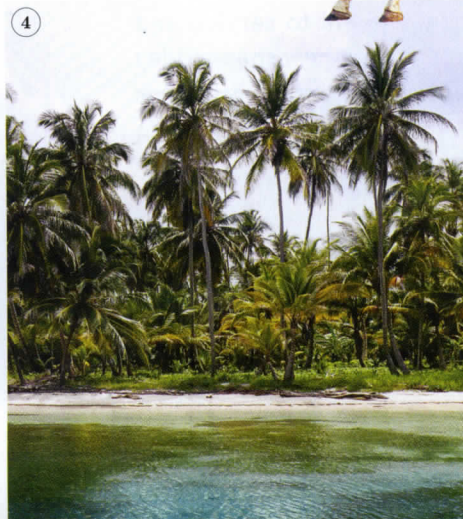
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1 NEWMAN'S BOAT, GALATEA

On her last sabbatical, in 2002, Newman and her partner, architect Guillermo Trotti, sailed around the world for 18 months, visiting 33 different island nations and teaching thousands of students about science, technology, and global change. "Exploration of space, sea, and self is where I find my highest inspiration," she says.

2 TWENTIETH-CENTURY ARTISTS

The arts, says Newman, are just as important as science, technology, and engineering in the American educational system. Some of her favorite artists? Picasso (pictured), Le Corbusier, and Issey Miyake, among others.

3 BIOMEMETICS

Newman used the muscles in a giraffe's neck as a model when designing her skin-tight Bio-Suit, which aids circulation and applies even pressure to an astronaut's body. Weighing in at just 44 pounds, her space suit is substantially lighter than the 300-pound conventional one.

4 VANUATU, THE SAN BLAS ISLANDS, AND COCOS ISLANDS

These remote South Pacific locales are the

well-traveled scientist's favorite escapes. Newman is also fond of Patagonia, part of which is in Trotti's home country of Argentina.

5 ENGINEERING SOFTWARE

Want to know what makes an engineer's heart go pitter-patter? Just say the words Matlab (technical computing), Catia (3-D computer-aided design), and Santos Human (an avatar that simulates human motion).

6 HER PUPILS

Newman oversees about 125 graduate students, and supervises 10 aerospace and biomedical engineering graduate students and postdocs at MIT. Their research ranges from studying musculoskeletal physiological deconditioning of astronauts to building biomedical devices that enhance locomotion on earth. "I love the students in the program who want to change the world—they are accomplishing that one person at a time," Newman says.