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WHOI scholar recognized by National Geographic

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Kakani Katija, a postdoctoral scholar at Woods Hole Oceanographic Institution, was recently highlighted as one of 14 National Geographic Emerging Explorers for 2011 in the June issue of the magazine.

"The 2011 class consists of amazing individuals who are innovators in their respective fields," reads the magazine in introducing the group. "They are the new visionaries, leading the efforts to educate and inspire people to care about the planet."

"I'm very excited," said Katija, who came to WHOI in September of 2010. "They told me I was selected in January. I had no idea I was even considered for it."

National Geographic's Emerging Explorers Program recognizes and supports uniquely gifted and inspiring adventurers, scientists and storytellers making a significant contribution to world knowledge through exploration while still early in their careers. Each award recipient receives a \$10,000 award to assist with research and to aid further exploration. The program is made possible in part by the **Catherine B. Reynolds Foundation**, which has supported the program since its inception in 2004.

Katija's research in the field of biogenic ocean mixing focuses on the power sources that propel the motion of oceans. Winds and tides have long been known to drive ocean currents, which in turn affect weather patterns around the world. But, as Katija's evidence increasingly shows, the movements of the sea creatures, from tiny to large, could have an equally powerful effect.

"The creatures in our seas could be as important to ocean circulation and global climate as the winds and tides," said Katija, who will join other Emerging Explorers this month at the Explorers Symposium at National Geographic in Washington, D.C..

Katija has indentified a mechanism that would allow swimming animals to mix water when they swim. Now she plans to test that mechanism, first with multiple animals in a controlled lab environment and

then in the open ocean. She has submitted internal WHOI proposals to pursue the initial phases of this work. She says she then hopes to apply to the National Science Foundation for the later research.

Preliminary lab results show that swarms of tiny krill or copepods may in fact have the greatest potential of all to mix fluids.

"We want to know where these big populations are located, how they act together to shape mixing, and what happens when whole populations migrate simultaneously in the same direction," she said in the magazine's profile article.

National Geographic Emerging Explorers may be selected from virtually any field, including anthropology, archaeology, photography, space exploration, earth sciences, mountaineering and cartography to the worlds of technology, music and filmmaking.

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