

Planet hunter Geoffrey Marcy shares \$1 million Shaw Prize in astronomy

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Astronomer Geoffrey Marcy's tenacious pursuit of planets outside our solar system has paid off with the discovery by him and his team of more than 110 extrasolar planets.

Now, that doggedness is paying off in another way. On Friday, Sept. 2, he will receive \$500,000 from the Hong Kong-based Shaw Prize Foundation in recognition of his pioneering achievements.

Marcy, professor of astronomy at the University of California, Berkeley, and director of the campus's Center for Integrative Planetary Science, will share the \$1 million Shaw Prize in astronomy with Michel Mayor of the University of Geneva for "finding and characterizing the orbits and masses of the first planets around other stars, thereby revolutionizing our understanding of the processes that form planets and planetary systems."

"I feel honored to represent my team for the Shaw award," Marcy wrote in an email from China, where he was vacationing prior to the award ceremony. "By discovering over 110 planets so far, our team has started to place our own Earth and its solar system in the context of our grand universe."

He added, "We now know that other planetary systems exist, but that their diversity renders our solar system just one type of many. The odd orbital shapes caused by the gravitational scattering of planets by other planets makes our solar system relatively peaceful by comparison. Perhaps life owes its existence here on Earth to the fortuitous, delicate arrangement of the planets in our system."

This is only the second year the three Shaw Prizes have been awarded, honoring scholars in the fields of astronomy, mathematics and life science and medicine. They were established under the auspices of Sir Run Run Shaw, a Hong Kong film producer and current chairman of Television Broadcasts Limited (TVB), the largest Chinese program producer in the world. The prize, sometimes referred to as the "Nobel Prize of the East," honors individuals who have achieved significant breakthroughs in academic and scientific research or application and whose work has resulted in a positive and profound impact on mankind.

Marcy emphasized that the achievements for which he's being honored were the product of a team effort, in particular a close collaboration with Paul Butler of the Carnegie Institution of Washington.

"It's a bit embarrassing getting such a big prize," Marcy wrote. "My collaborators really deserve it for all of their innovative and hard work. My long-time buddy, Paul Butler, has been the brains and the engine behind our planet search. I am indebted to him for every single planet we've found."

Credit also goes to Steve Vogt, professor of astronomy at UC Santa Cruz, who designed and built the spectrometers used to discover planets, and recently, Debra Fischer, assistant professor of astronomy at San Francisco State University, who contributed "incredibly innovative ideas for planet-hunting, especially the most recent discovery that our planets have large cores of rocky material in their centers."

Marcy plans to donate \$400,000 to UC Berkeley to continue research on other planetary systems. He also is giving \$50,000 to San Francisco State University, where he and Butler started their planet searches in 1987 and which "gave me my start as a professor," he said.

Michel Mayor, with whom Marcy shares the Shaw Prize, reported the

first extrasolar planet in October 1995, based on observations with Didier Queloz at the Geneva Observatory in Switzerland. Within a week, Marcy and Butler had confirmed the planet through observations at the University of California's Lick Observatory, opening a floodgate of new-found planets from his group. To date, more than 150 planets have been reported, the majority of them by Marcy, Butler, Fischer and Vogt.

"I am honored to be included with professor Mayor in this award," Marcy wrote. "His innovative brilliance has been impressive and he has served as a model for young scientists."

The Shaw Prize, an international award managed and administered by The Shaw Prize Foundation of Hong Kong, is accompanied by a medal displaying a portrait of Sir Run Run Shaw and the imprint of a Chinese phrase from Xun Zi, a thinker in the warring states period of Chinese history in 313 to 238 B.C. The phrase translates as "Grasp the law of nature and make use of it."

Awarded the Shaw Prize this year in the area of life science and medicine was Professor Sir Michael Berridge of Babraham Institute, Cambridge, United Kingdom, "for his discoveries on calcium signaling in the regulation of cellular activity." Professor Andrew John Wiles of Princeton University was awarded the Shaw Prize in mathematics for his proof of Fermat's Last Theorem.

Last year's winner of the mathematics prize was the late UC Berkeley professor emeritus of mathematics Shiing Shen Chern "for his initiation of the field of global differential geometry and his continued leadership of the field"

Source: UC Berkley

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