BOSTON UNIVERSITY

WHY SUPPORT RESEARCH AT NASA?

FOR STARTERS, SO OUR SATELLITES CAN MORE EFFECTIVELY EXPAND OUR KNOWLEDGE.

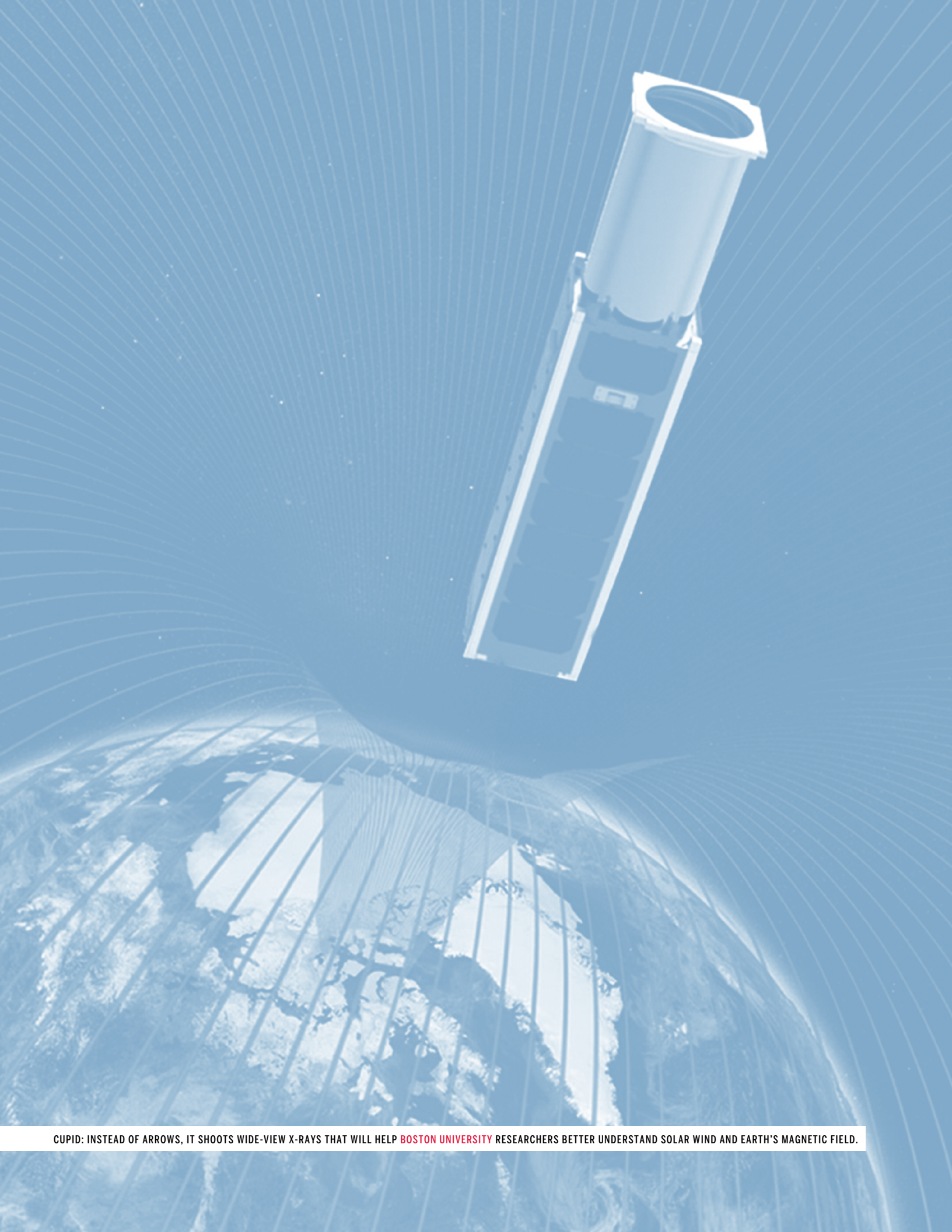
Through $6.6 million in research grants, Boston University has been helping the National Aeronautics and Space Administration (NASA) reveal the unknown so that what we do, and learn, will benefit all humankind.

CUPID: A LABOR OF LOVE THAT WILL TELL US MORE ABOUT NEAR-EARTH.
The near-Earth space environment can be harsh, making it difficult to gather crucial data that impacts human life. BU professor Brian Walsh hopes to change that with the Cusp Plasma Imaging Detector (CuPID) cube satellite, a small x-ray imaging spacecraft designed to withstand these conditions and study the interaction between solar wind and Earth's magnetic field. "In the past, x-ray telescopes on satellites have had tiny, pencil-beam fields of view," says Walsh. "We have created the first wide-field-of-view x-ray detector, which will allow us to look at the big picture." Walsh is developing CuPID under a grant from NASA. It should be love at first flight.

BOSTON: HUB OF THE CLIMATE UNIVERSE, TOO. As an urban center surrounded by the heavily vegetated landscapes of the northeastern United States, Boston offers unique opportunities to study climate change. Professor Lucy Hutyra is using urban air quality measurements and data collected through NASA's Orbiting Carbon Observatory 2 (OCO-2) to study how land use and the interaction of people and plants affect the carbon cycle. Combining data OCO-2 collects from Boston with data from different US cities, Hutyra's work helps us understand how carbon flows between the biosphere and atmosphere, better informing climate policies.

DO PEOPLE LITERALLY "SPACE OUT"? Does space radiation affect spatial learning and memory? BU professor Lee E. Goldstein intends to find out. His study of the long-term impact of space radiation on the brain in mice could lead to better understanding and more effective treatment of Alzheimer's disease in humans. As part of the project, he is evaluating a novel, noninvasive laser-based eye scanner that can detect changes in the lens of the eye induced by radiation and the progression of Alzheimer's. NASA is funding the study in hopes of helping make Alzheimer's a memory.

We hope you'll give strong consideration to supporting research funding for NASA. If you have any questions or would like to discuss further the role that NASA research plays in our daily lives, please visit bu.edu/federal.



CUPID: INSTEAD OF ARROWS, IT SHOOTS WIDE-VIEW X-RAYS THAT WILL HELP BOSTON UNIVERSITY RESEARCHERS BETTER UNDERSTAND SOLAR WIND AND EARTH'S MAGNETIC FIELD.