Goddard Researcher Wins Popular Writing Award

By Bill Steigerwald

Dr. Kenneth Phillips displays his AAS 2004 Award for Popular Writing on Solar Physics

Dr. Kenneth Phillips won the American Astronomical Society's 2004 Award for Popular Writing on Solar Physics, along with his colleague, Dr. Bhola Dwivedi of the Banaras State University, India. Phillips, who is "greatly honored" to receive the award, is a National Research Council Senior Research Associate affiliated with the RHESSI project at Goddard.

The award was presented May 31 at the American Astronomical Society's (AAS) meeting in Denver, Colo., for the article "Paradox of the Sun's Hot Corona," which Phillips co-authored with Dwivedi. The article was published twice by Scientific American magazine, first in June 2001 and again in October 2003 for a special edition "New Light on the Solar System".

The article explores the mystery of the Sun's hot outer atmosphere, or corona, which is many times hotter than the Sun's visible surface. The apparent paradox is "…as if you got warmer the further you walked away from a fireplace," according to the article. Since the corona is permeated by magnetic fields, researchers suspect the release of magnetic energy may heat it up, but the exact mechanism remains unknown.

The article explains technical phenomena like the dynamics of solar magnetic and electric fields in an engaging and accessible manner. This follows from Phillips' rule of thumb when writing for a popular audience: "Don't assume that people know the jargon. Astronomy has a long legacy, and as a result, astronomers use language ordinary people don't." The AAS award thanks the authors "for their effort in educating the public about contemporary scientific studies of the Sun and heliosphere."

"I got involved in the subject matter of the article through eclipse expeditions in 1998 (Caribbean), 1999 (Bulgaria) and 2001 (Zambia) with a CCD camera instrument which images the white-light corona with a fast cadence (40 frames per second)," said Phillips. "The object of this instrument was to look for oscillations which would point to magnetic wave heating of the corona (the alternative hypothesis is heating by numerous "nano-flares" or tiny releases of magnetic energy)."

Phillips, a citizen of the United Kingdom, became interested in solar astronomy as a schoolboy, when he projected the Sun's image through a telescope to observe sunspots. "I never let go of the subject," he says. He is now with the Ramaty High Energy Solar Spectroscopic Imager (RHESSI) project at Goddard, which makes observations of the high-energy radiation emitted by enormous explosions in the corona called solar flares.

Magnetic energy is also implicated as the power source of solar flares, but "the mechanism that drives them is unknown," says Phillips. "Something very dramatic must happen on a local scale. It's a fascinating area to jump into."

Phillips has written several popular articles in the UK magazine "Astronomy Now," and a semi-popular book "Guide to the Sun," published in 1992 and again in 1997 by the Cambridge University Press (CUP). He co-authored a brochure to guide women who wished to enter astronomy with Dr. Helen Mason of Cambridge University, which was published in 1992 for the UK Royal Astronomical Society. Currently, he is writing a book for specialists on Ultraviolet and X-ray solar astronomy with Dr. Uri Feldman of the Naval Research Laboratory, also to be published by CUP, around the year 2006.

For more about the award, refer to:
http://cfa-www.harvard.edu/~vanballe/SPD/ ■

Hands-Ons Learning (cont'd)

in that students were able to get "hands-on" experience in the use of a remote observational platform to conduct scientific research."

"It's real science.. It's kids going out there doing what scientist do and not just sitting in a classroom reading a textbook" This is the Best thing I've done in 20 years of teaching – Rose Hotchkiss,RSESTeP, Weeksville Elementary, NC.

"Tthe students are really excited because our mission has really aligned with one of NASA's" – Dee McLellan, Meadow Creek Christian School, MN.

"This is a GREAT opportunity for the Radio Control Community to show its stuff. What a great way to get our youth involved into aviation and science and not the computer screend at home with all the games that are out today. Kist the fact that these kids are interested in after school activities blowas my mind. I haven't seen that kind of curiosity in a long time. – Michael Beckman, Pilot, President of Hamburg Flyer's R/C Club, MI.

"I think this trip has had an impact on me. This trip made me want to rethink what I want to do for a career. I am now starting to think I want to work for NASA as a scientist for remote sensing and radio telemetry. – 7th Grade student, St. Hughs Elementary, Monitoring the Diverse Ecosystems of the Chesapeake Bay.

Additionally, Two Remote Sensing Science Clubs have been started as a direct result of participation in the RSESTeP program.

NASA's Remote Sensing Earth Science Teacher Program successfully has been proven putting NASA science and technologies into the hands of teachers and student and engaging students in public in NASA research, using AS Only NASA can satellite, can inspire the next generation of Explorers to think about pursuing careers in Math, Science and Technology.■