



FOR IMMEDIATE RELEASE

The recipient of the 2023 Robert J. Trumpler is Dr. Deborah Lokhorst who completed her doctorate in astronomy from the University of Toronto in 2022

San Francisco, California – September 26, 2023 - Presented to a recent recipient of a PhD degree whose research is considered unusually important to astronomy, the **2023 Robert J. Trumpler Award** is presented to **Dr. Deborah Lokhorst**, who received her doctorate in astronomy from the University of Toronto.

One nominator described Dr. Lokhorst as *“an intellectually brilliant, extraordinarily capable scientist and a rising star in astrophysics.”* Another described her dissertation as *“a landmark study, ushering in a new era of extremely sensitive ionized gas studies.”* Her dissertation, *“Ultra-Narrowband Imaging with the Dragonfly Telephoto Array: Toward the Cosmic Web,”* is a rare thesis that combines theory, observation, and instrumentation. In her thesis, Lokhorst describes the conception, design, fabrication, and use of an innovative new imaging device for the Dragonfly telescope – an array of lenses working in tandem like the compound eye of a dragonfly – to detect extraordinarily dim astronomical objects.

Lokhorst analyzed hydrodynamical simulations to calculate the observational limits needed to directly detect “invisible” gas in the medium surrounding nearby galaxies. Next, she designed, machined, and assembled a prototype for a new component of the Dragonfly Telephoto Array that could detect these gases at the observational limit. Named “the Filter-Tilter,” Lokhorst’s invention helped Dragonfly’s narrowband imager reveal what had been undetectable before – a giant ionized gas cloud surrounding the starburst galaxy, M82.

Lokhorst’s dissertation has also been recognized by the Royal Astronomical Society of Canada and the Canadian Astronomical Society who jointly presented her with their J.S. Plaskett Medal for most outstanding astrophysics doctoral thesis in Canada. She is currently a Herzberg Instrument Science Fellow at the Herzberg Astronomy and Astrophysics Research Centre. Expanding upon her work on the Dragonfly Telescopic Array, she is now project and science lead for the Dragonfly Spectral Line Mapper with the goal of directly imaging the faintest and largest structures in the Universe. She is also committed to education and is involved in the construction of a smaller version of Dragonfly that can be used by high school students and astronomy clubs.

Join us in celebration of Dr. Deborah Lokhorst’s achievements at the in-person ASP Awards Gala on Saturday, November 11, 2023 at the Grand Bay Hotel San Francisco in Redwood City, California.



About the ASP

The Astronomical Society of the Pacific (ASP), established in 1889, is a 501c3 nonprofit organization whose mission is to use astronomy to increase the understanding and appreciation of science and to advance science and science literacy. The ASP connects scientists, educators, amateur astronomers and the public together to learn about astronomical research, improve astronomy education, and share resources that engage learners of all kinds in the excitement and adventure of scientific discovery. Current ASP programs and initiatives support college faculty, K-12 science teachers, amateur astronomy clubs, science museums, libraries, park rangers, and girl scouts to name a few.

Through its annual awards, ASP recognizes achievement in research, technology, education, and public outreach. The awards include the ASP's highest honor, the Catherine Wolfe Bruce Gold Medal awarded since 1898 for a lifetime of outstanding research in astronomy. The Bruce Medal has gone to some of the greatest astronomers of the past century, including Arthur Eddington, Edwin P. Hubble, Subrahmanyan Chandrasekhar, and Vera Rubin. The ASP also presents the Klumpke-Roberts Award for outstanding contributions to the public understanding and appreciation of astronomy. Awardees include Carl Sagan, Isaac Asimov, and the Hubble Heritage Project.

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