



FOR IMMEDIATE RELEASE

Dr. Ellen Gould Zweibel, W.L. Kraushaar Professor of Astronomy and Physics at the University of Wisconsin, Madison and Director of Center for Magnetic Self-Organization, to receive the 2022 Bruce Gold Medal

SAN FRANCISCO, California – August 29, 2022 The Astronomical Society of the Pacific (ASP) is proud to announce the 2022 recipient of its most prestigious award, the **Catherine Wolfe Bruce Gold Medal** honoring **Dr. Ellen Gould Zweibel**, W. L. Kraushaar Professor of Astronomy and Physics at the University of Wisconsin, Madison and Director of Center for Magnetic Self-Organization in recognition of her contributions to the understanding of astrophysical plasmas, especially those associated with the Sun, stars, galaxies, and galactic clusters. She has also made major contributions in linking plasma characteristics and behaviors observed in laboratories to astrophysical plasma phenomena occurring in the universe.

Ellen Zweibel was born in New York City, grew up in New Jersey, and went to college at the University of Chicago where she majored in mathematics and was introduced to astronomy research. She did graduate work at Princeton University, where she studied plasma physics and wrote her thesis on galactic dynamics, receiving her PhD in 1977. After a year at the Institute for Advanced Study in Princeton, she joined the scientific staff of the High Altitude Observatory in Boulder, CO, but was drawn back to academia and began a faculty appointment at the University of Colorado in 1981. In 2003 she moved to the University of Wisconsin-Madison, where she is currently the William L. Kraushaar Professor of Astronomy and Physics.

Zweibel's research has focused on plasma effects in astrophysical systems. Most of these effects are due to an embedded magnetic field, and many of them can be grouped into a small number of basic physical processes: how magnetic fields are generated, how they exchange energy with their environments (sometimes on explosively fast timescales), their role in global instabilities, how they cause a tiny fraction of thermal particles to be accelerated to relativistic energies, and how they mediate the interaction of these relativistic particles (cosmic rays) with their gaseous environments through waves and instabilities on microscales. Although all these processes occur in laboratory plasmas, it is in natural plasmas that they take their most extreme forms. Zweibel and her students and postdocs have used analytical theory and numerical simulations to study the generation and evolution of magnetic fields in the Sun and other stars, in galaxies, and in galaxy clusters, and have researched the effects of high energy cosmic ray particles in all of these environments. Their most recent work centers on the role of cosmic rays in star formation feedback: the self-regulation of the star formation rate in galaxies through energy and momentum input to the ambient medium by the stars themselves.

Zweibel has authored over 242 refereed publications with over 8,000 citations. In 2016 she was awarded the American Physical Society's James Clerk Maxwell Prize for Plasma Physics "For seminal research on the energetics, stability, and dynamics of astrophysical plasmas, including those related to stars and galaxies, and for leadership in linking plasma and other astrophysical phenomena." She is a member of the National Academy of Sciences.



Join us in celebration of Dr. Ellen Gould Zweibel's achievements at the in-person 2022 ASP Awards Gala on November 19, 2022 in Burlingame, California.

The Astronomical Society of the Pacific's **Catherine Wolfe Bruce Gold Medal** was established in 1898 by Catherine Wolfe Bruce, an American philanthropist and patroness of astronomy. The ASP presents the medal annually to a professional astronomer in recognition of a lifetime of outstanding achievement and contributions to astrophysics research. It was first awarded in 1898 to Simon Newcomb. Previous recipients of the Bruce Medal include Giovanni V. Schiaparelli (1902), Edwin Hubble (1938), Fred Hoyle (1970), and Vera Rubin (2003).

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.

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