

HARCOURT C. "ACE" VERNON MEMORIAL LECTURE

Thursday, April 27, 2017 | 7:30 PM | Clayton Hall Conference Center



Brown Dwarfs: Cooler Than the Coolest Stars

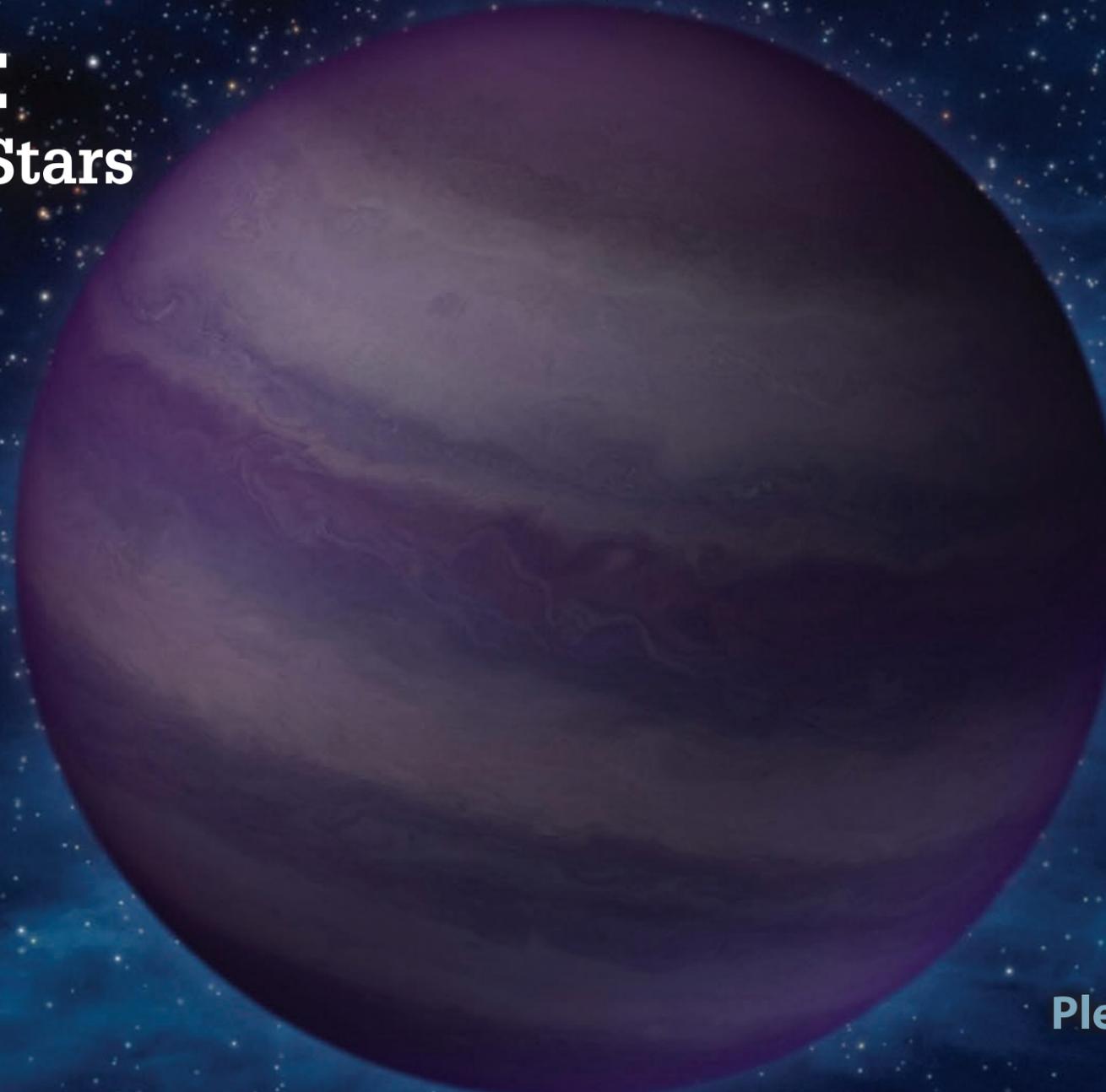


Emily Rice
Assistant Professor,
College of Staten Island,
City University of New York

Brown dwarfs are mysterious celestial objects that form like stars do, but then cool and fade to resemble gas giant planets like Jupiter.

Prof. Emily Rice will explain how studying the atmospheres of brown dwarfs, particularly "young" ones less than 100 million years old, will advance our understanding of gas giant planets around stars other than the sun.

In addition to her teaching and research at the College of Staten Island, City University of New York, Rice is a research associate at the American Museum of Natural History and co-leads the Brown Dwarfs in New York City (BDNYC) research group.



Chillin' in Space

This is what a "Y dwarf" might look like. Y dwarfs are the coldest star-like bodies known, with temperatures that can be even cooler than the human body. Illustration courtesy of NASA.

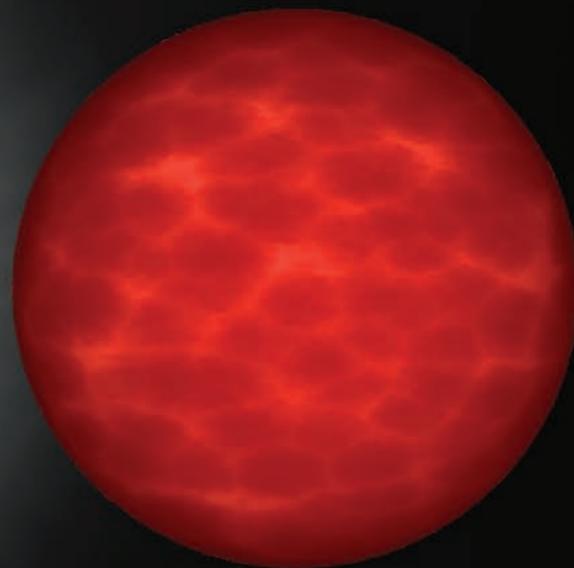
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Brown Dwarfs: The Missing Link?



The Sun



M Dwarf



L Dwarf



T Dwarf



Jupiter

Are brown dwarfs the missing link between stars and planets? This artist's rendition plots all the objects to the same scale. At left is the sun. To its right is a star with very low mass called an "M dwarf," then a couple of brown dwarfs—a hotter "L dwarf" and a cooler "T dwarf"—and then the planet Jupiter.

These objects have masses ranging from 1,050 times that of Jupiter (for the sun) through 75, 65, 30, and 1 Jupiter mass for the M dwarf, L dwarf, T dwarf and Jupiter, respectively. Despite the range in mass, all four low-mass objects are about the same size—10 times smaller than the diameter of the sun.

Information courtesy of NASA. <https://www.nasa.gov/feature/jpl/nasa-space-telescopes-pinpoint-elusive-brown-dwarf>

Learn more:

Delaware Asteroseismic Research Center at UD
www.physics.udel.edu/darc

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