

## 2005 Brouwer Award Winner - James Williams

The winner of the 2005 Brouwer Award is James Williams (JPL), for his many outstanding contributions to celestial mechanics. Perhaps the best practitioner of ultra-precise celestial mechanics in the world, Williams has used lunar laser ranging, now accurate to about 2 centimeters, to measure a 0.2 arcsec offset of the average position of the lunar spin axis from the Cassini state. This offset is indicative of the dissipative processes in the Moon's interior and led to the discovery that the Moon has a small molten liquid core.

Williams's work has also been instrumental in placing limits upon the possible time variations of the gravitational constant and other general relativistic parameters. Early in his career, he helped pioneer the study of asteroid evolution by developing proper orbital elements and then applying them to establish a number of dynamical asteroid families.

View the presentation which Dr. Williams gave on June 27, 2006 at the [2006 AAS/DDA meeting](#) [1] in Halifax, Nova Scotia, entitled, "[Lunar Laser Ranging and the Evolution of Lunar Dynamics](#) [2]."

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