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Awards

2002 Nier Prize Citation for Dante Lauretta

Over fifty years ago Harold Urey showed that thermodynamic calculations are an important tool for modeling processes in the solar nebula (Urey, 1952). However, thermodynamics does not tell us how chemical reactions occur and whether equilibrium is reached. Experimental kinetic studies, such as those done by Dante Lauretta, are needed.

As a graduate student at Washington University from 1993 to 1997, Dante studied the formation of metal-sulfide assemblages, which are ubiquitous in chondrites. He did experimental studies of reaction rates and phase equilibria, he made careful analyses of metal-sulfide assemblages in chondrites, and he computed thermodynamic and kinetic models using his experimental data. Dante reported his careful work in a series of six papers. One of his most important conclusions is that corrosion of iron alloy by hydrogen sulfide gas produces iron-bearing sulfides fast enough to occur within the lifetime of the solar nebula and that the sulfides were morphologically similar to those in the matrix of carbonaceous chondrites (Lauretta *et al.*, 1997).

After receiving his Ph.D. in 1997, Dante spent four years at Arizona State University and then he joined the Department of Planetary Sciences at the University of Arizona as an assistant professor.

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REFERENCES

LAURETTA D. S., LODDERS K. AND FEGLEY, B., JR. (1997) Experimental simulations of sulfide-formation in the solar nebula. *Science* **277**, 358–360.

UREY H. C. (1952) *The Planets: Their Origin and Development.* Yale University Press, New Haven, Connecticut, USA. 245 pp.

Best Student Paper in Planetary Sciences Award for 2000: Natasha Mia Johnson

The Best Student Paper in Planetary Sciences Award for 2000 is awarded to Natasha Mia Johnson of Washington University for her paper "Water on Venus: New Insights from Tremolite Decomposition" (*Icarus* **146**, 301–306).

Natasha was born in Los Angeles, obtained her Bachelor's degree at the University of Arizona, and then joined the graduate program at Washington University's Department of Earth and Planetary Sciences. She receives the award for work she performed as a graduate student under the advice of Dr. Bruce Fegley. One of her first projects as a graduate student concerned reactions of SO_2 with Ca-bearing minerals. Natasha found that nothing happened when tremolite was heated in a CO_2–SO_2 gas mixture for several days. This suggested that the rate limiting process for tremolite survival on Venus' might be thermal decomposition, which further work showed to take place only very slowly even at temperatures appropriate to the surface of Venus.

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