
LOUIS J. ALLAMANDOLA - NASA AMES RESEARCH CENTER

Exobiology Branch, Mail Stop 245-6, Moffett Field, CA 94035-1000

Phone: 650-604-6890 Fax: 650-604-6779 Email: Louis.J.Allamandola@nasa.gov

Related Experience Summary

Louis Allamandola, founder and director of the Ames Astrochemistry Laboratory, went to Leiden University in 1976 where he with Drs. Greenberg and Baas pioneered the approach to make and study lab analogs of interstellar/pre-cometary ice grains. In 1983 he started the Ames Astrochemistry Laboratory. He has extensive experience with astronomical data, direct access to telescopic data, and a very large data base on the physical, spectral, and chemical properties of realistic interstellar and cometary analog materials. He has 30+ years of experience in laboratory studies on the chemistry, composition, and spectroscopy of interstellar matter with emphasis on organics and interstellar and solar system ices. Among the significant discoveries made in the Astrochemistry Lab, the demonstration that biogenic organic molecules can be made under the harsh, abiotic conditions in extraterrestrial ices implying they are widespread throughout the Milky Way Galaxy and cosmos, and the recognition that polycyclic aromatic hydrocarbon ions are common in space are particularly relevant here.

Employment History

Oct. 1985 - present: Astrophysicist (Civil Service), Astrophysics Branch of the Space Sciences Division, NASA/Ames Research Center, Moffett Field, CA.

Oct. 1983 – Oct. 1985: National Research Council Senior Associate, NASA/Ames

Sept. 1976 – Oct. 1983: Professor of Laboratory Astrophysics, Leiden University, Netherlands.

Education

Ph.D. in Physical Chemistry, December, 1973, University of California, Berkeley

B.S. Chemistry, June, 1968-St. Peter's College, Jersey City, N.J.

Professional Societies

American Astronomical Society, American Chemical Society, International Astronomical Union, American Association for the Advancement of Science, American Physical Society

Awards and Honors

11/07 NASA Ames H. Julian Allen Award for best scientific paper in 2007

10/06 Presidential Rank Award for Meritorious Senior Professional

10/06 Elected Fellow of the American Physical Society (APS Fellow)

10/06 Elected Fellow of the American Association for the Advancement of Science

2006 One of 4 international SOC members for Nobel Symposium 133

2004 One of world's Most Highly Cited Authors in Space Sciences (ISI): top 100 cited 1981-2001

Selected Relevant Publications

Allamandola, L.J., in 'Chemical Evolution I: Chemical Change Across Space and Time' (Eds. Zaikowski and Friedrich), American Chemical Society Educ. Book Series, in press, Dec 2007.

Bernstein, Dworkin, Sandford, Cooper, and Allamandola, "Racemic Amino Acids from the Ultraviolet Photolysis of Interstellar Ice Analogues," *Nature* 416, 401-403, (2002)

Pendleton & Allamandola, "The Organic Refractory Component of the Diffuse Interstellar Medium: Infrared Spectroscopic Constraints," *Astrophys. J. Supp.*, 138, 75-98 (2002)

Dworkin, Deamer, Sandford, Allamandola, "Self-Assembling Amphiphilic Molecules: Synthesis in Simulated Interstellar/Precometary Ices" *PNAS*, 98, 815-819, (2001).

Allamandola, Hudgins, and Sandford, "Modeling the Unidentified Infrared Emission with Combinations of Polycyclic Aromatic Hydrocarbons," *Astrophys. J. (Lett.)* 511, L115 (1999)

Allamandola, Tielens, & Barker, "Interstellar Polycyclic Aromatic Hydrocarbons: the Infrared Allamandola, Sandford, Tielens, & Herbst, "'Diamonds' in Dense Molecular Clouds: A Challenge to the Standard Interstellar Medium Paradigm," *Science* 260, 64 (1993).

Schutte, Allamandola, & Sandford, "Formaldehyde and Organic Molecule Production in Astrophysical Ices at Cryogenic Temperatures," *Science* 259, 1143 (1993).
