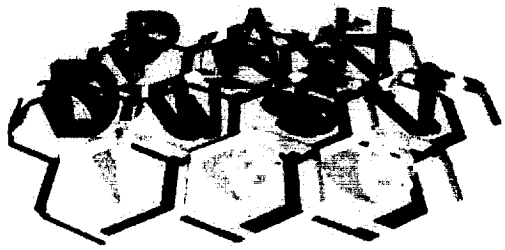
Welcome to the Astrochemistry Lab



The Astrochemistry Laboratory in the Astrophysics Branch (SSA) of theSpace Sciences Division at NASA's Ames Research Center specializes in the study of extraterrestrial materials and their analogs. The staff has pioneered laboratory studies of space environments including interstellar, cometary, and planetary ices, simulations of the so-called "Unidentified" Infrared Emission Bands and Diffuse Interstellar Bands using PAHs and PAH-related materials, and has extensive experience with low-temperature spectroscopy and astronomical observation. The extensive data base obtained in this laboratory is used in conjunction with astronomical data. We are especially interested in extraterrestrial organic molecules that may have been involved in the origins of life, our lab is part of NASA's Astrobiology Institute, and members of our staff work with the SETI Institute. The Astrochemistry Lab is in a particularly unique position to carry out this type of research since its members have extensive experience with astronomical data, direct access to telescopic data, and a very large data base on the physical, spectral, and chemical properties of interstellar and cometary analog materials.

Important discoveries made by the Astrochemistry Group include:

The recognition that polycyclic aromatic hydrocarbons and their ions are common in space.

The identification of a major fraction of the known molecular species frozen in interstellar/pre-cometary ices.

The recognition that a significant fraction of the carbon in the interstellar medium is carried by both microdiamonds and organic materials.

The expansion of the types of molecules expected to be synthesized in interstellar/pre-cometary ices. These could be delivered to the early Earth (or other body) and influence the origin or early evolution of life.

The details of what we do can be found below:

Scientific Studies

Latest amino acid results

Publications

People

Equipment

Database of IR spectra of PAHs

Links