

## Selected Bio, Stephen Mende

### Note from the Nominator:

Steve has had a remarkable career in space imaging for the past nearly 50 years, starting at Rice! He has worked with nearly every important ground-based and space-based imaging mission. Remaining details are from Steve, who is traveling and didn't have time to make this very clean, but it is clear that he is an incredible scientist.

Post-doc at Rice 1965-1967.

Built the TV cameras for the OWL spacecraft.

### Lockheed 1967 - 1996:

1969: flew the photometer experiment on the NASA jet plane with Bob Eather and mapped the auroral oval by remote sensing including the diffuse aurora and the extremely soft auroras on the dayside before people had mapped them with particle detectors.

1970 - 1976: Meridian Scanning photometer experiments conjugate to ATS-5 and ATS-6 synchronous satellite to relate the aurora its relationship to L=6 plasma clouds including substorms produced the first Keogram and showed that the inner edge of the plasma sheet is the same as the inner edge of the diffuse aurora.

1973-1976: Developed the monochromatic all sky camera now in wide use by all aeronomers.

1976-1993: Atmospheric Emissions Phtometric Imager (AEPI) Space shuttle experiment, produced (with Jim Burch) and detected an artificial aurora from the space shuttle.

1982: Characterized shuttle glow and showed that it is created on all spacecraft surfaces from the reaction of N and O.

1995: showed that sprites were produced by the N<sub>2</sub> first positive bands and therefore they were created by very low energy electrons.

1988- 1996 Tether Optical Photometry; flew on the shuttle twice

### U.C. Berkeley 1996 - now: Senior Research Scientist

1996 -2005: Far ultraviolet Imager on the IMAGE mission. First space borne global imaging of proton auroras, detection of the important role of Alfvén wave generated auroras in substorms.

2000: Imaging of Sprites and Upper Atmospheric Lightning, developed and built the ISUAL experiment now flying on Formosat 2 Taiwanese satellite, Global properties of TLE-s.

2003- now: Lead Investigator for ground based imaging for the NASA THEMIS mission.

Developed and now operating 21 all sky camera in a network jointly with the Canadians.

2007-now first PI and then deputy PI for Ionospheric Connection Explorer (ICON) currently in development phase.

### Awards:

Fellow of the American Geophysical Union

### Contact Info:

Stephen Mende

Space Science Laboratory,

UC Berkeley,

510-642-0876

[mende@ssl.berkeley.edu](mailto:mende@ssl.berkeley.edu)