Robert James Purser

EDUCATION:

Ph.D., Atmospheric Science, University of Wisconsin, Madison, Wisconsin, 1992
B.A., Physics and Theoretical Physics, St. Catharine's College, Cambridge, U.K., 1977

PRESENT POSITION:

Science Applications International Corporation (SAIC) at NOAA/NCEP/EMC, Task Leader, Data Assimilation

RESEARCH:

After graduating from Cambridge University, he joined the Met Office in Bracknell, UK. (1977) Began the investigation of the efficient 'recursive filter' techniques for objective data assimilation with adaptive response to data density and quality. Also, in a series of papers with Dr. Mike Cullen and others, showed how a geometrical perspective brought about a better understanding of semi-geostrophic balanced dynamics.

From 1983--1987, at the invitation of Drs J.M. Lewis, Kit Hayden and V. Suomi, he visited the Cooperative Institute for Meteorological Satellite Studies (CIMSS) at the Space Science and Engineering Center (SSEC) of the University of Wisconsin-Madison in order to further extend the adaptive recursive filter technique as a tool to improve the quality-control and analysis of satellite data. He proposed that probability models for forecast and measurement errors more general than the standard Gaussian models could justify and formalize various adaptive aspects of data assimilation in an optimal framework.

Resumed work at the Met Office until 1989, investigating objective measures of information content for aircraft and satellite data, developing semi-Lagrangian numerical techniques (with Prof. L.M. Leslie) and continuing the effort to improve the recursive filter method.

1989-1992, returned to UW-Madison to complete a PhD under Prof. J.A. Young. Applied information theory to define objective measures of data density for satellite instruments (with Dr. H.-L. Huang).

1992 –present: Worked at NOAA/NCEP/EMC on adaptive data assimilation and numerical methods. Constructed and tested non-standard global model grids, including the 'conformal cubic' and 'octagon' grids (with Dr. M. Rancic) and the 'Fibonacci grid' (with Dr. R. Swinbank).