

**MICROGRAVITY ENVIRONMENT INTERPRETATION TUTORIAL (MEIT)**  
**March 4 - 6, 2003, NASA Glenn Research Center, Cleveland, Ohio**

**COURSE DESCRIPTION**

The objectives of the NASA Glenn Microgravity environment interpretation tutorial (MEIT) training course are:

1. Educate both Project Scientists (PS) and Principal Investigators (PI) about the impact the microgravity environment will have on their experiments.
2. Expose the PS and PI's to the different methods that can be used to assess and quantify the microgravity impact so that it can be taken into account during data analysis and data interpretation.
3. Make the attendees aware of the many services the Principal Investigator Microgravity Services (PIMS) project offers to PSs and PIs as they evaluate the effects of varying acceleration levels on their experiments. These include services such as acceleration data analysis and interpretation; identification of acceleration sources related to vehicle systems, experiment hardware, and vibration isolation systems; development of data analysis techniques and displays per user requirements; characterization of the microgravity environment of the ISS in support of PIs; preparation of mission summary reports aiming at furthering the PIs understanding of the microgravity environment.

**THE FOLLOWING TOPICS WILL BE COVERED:**

1. Components of the Microgravity Environment of Orbiting Spacecraft
  - Quasi-steady / Vibratory / Transient Accelerations
2. Accelerometer Systems Description
  - SAMS and MAMS
3. Analysis of Accelerometers Data
  - A. Quasi-steady data ( MAMS)
    - data collection / compensation
    - data analysis / display
  - B. Vibratory data (SAMS )
    - data sampling, aliasing, resolution and frequency limits
    - data collection / compensation
    - time domain analysis / display
    - frequency domain analysis / display
4. Different Microgravity Platform Signatures (Quasi-steady and Vibratory)
  - A. International Space Station (ISS)
  - B. Sounding Rockets
  - C. KC-135
  - D. Reduced Gravity Ground-based Facilities (drop towers and Microgravity Emission Lab)
5. ISS Microgravity Requirements and ISS Current Environment Predictions
6. Fundamentals of Microgravity Vibration Isolation and a Survey of Microgravity Vibration Isolation Systems
7. Impact of the Microgravity Environment on Experiments
8. Predicting Residual Acceleration Effects on Space Experiments
9. Developing Microgravity Tolerance Specifications

10. ISS Increments IV and V Measured Environment:

- A- Quasi-steady
- B- Vibratory

A handwritten signature in black ink, appearing to read "Kenol Jules". The signature is written in a cursive style with a horizontal line extending from the end.

Kenol Jules

PIMS Project Scientist  
NASA Glenn Research Center