

LaSPACE – NASA – Michoud Education Fellows (MEF) Program

**A year long program of K-12 Educator Training
& Enhancement utilizing the unique facilities at
the Michoud Assembly Facility in New Orleans**

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S.E. Regional SG Meeting, September, 2011, North Carolina

Meet the Players

NASA Marshall Space Flight Center

Administration; Education Office

Michoud Assembly Facility

Lockheed-Martin; Jacobs Technology

College of Education, Ed. Theory, Policy and Practice, LSU

Pamela Borne Blanchard; Ian Binns (now in North Carolina)

Louisiana Space Consortium

La Business and Technology Center (LBTC)

St. Tammany Parish School District

K-12 Educators; Secondary Science Supervisor

Instructional Educational Technology Center (& Channel 13)

Zachary Community School District

K-12 Educators; Coordinator of Special Programs

NASA Stennis Space Center

RATIONALE for the MEF Program

Objective: Provide educators an opportunity to explore the way science content and inquiry skills, mathematics, and communication skills are used by scientists, engineers, and skilled workers at Michoud and SSC.

Ultimately, the Fellows should realize the importance of what **they** teach in providing an educated workforce, as exemplified by activities at Michoud and SSC.

General:

- Grade 4-12 Science Teachers = Fellows
- Commitment to full participation in the program
- Work as a team – we call them MEF Cohorts – patterned after NASA flight crews/teams.
- Travel costs, stipends, substitute pay and the like for the Fellows to be covered by school districts
- Science supervisors/coordinators play active role in program

Activities

Initial Orientation Meeting: A one to two day mini-workshop in late May lays the groundwork for the year long effort; focuses upon **science as inquiry**; assesses current understanding (Inquiry Skills Analysis); introduces the Four-Question Research Strategy (Cothron et al., 2006) and provides relevant activities. (MSFC Ed staff have participated in recent years.)

Summer Professional Development Institute: A two-week overview of work undertaken at Michoud and SSC, through tours of facilities, discussions with managers and interviews with workers. Focus is upon the Science and Math content and skills involved in different jobs and how inquiry can be used to motivate students to obtain the needed skills.



MEF-2 Cohort with Faye Bailiff discussing ET Thermal Protection Systems

Summer (cont.):

One of the requirements for the summer program is that each MEF Fellow selects and does a video interview with one of the employees with whom they have interacted. The goal is to learn, in depth, how the employee received his/her training, what courses were taken, what secondary education was completed, how they came into their position and the communication skills that are necessary to do their job.



MEF-3 Cohort Touring one of the Labs at Michoud Assembly Facility

The interview, after editing, is to be shown to their students during the school year and becomes part of the teacher's education 'portfolio'.

Activities (cont.)

Academic Year Follow-up: Four Saturday sessions are held during the academic year, focusing upon strengthening the Fellow's understanding of **science as inquiry** and helping to implement this into their lesson plans. In addition the Fellows must finish editing their videos at the St. Tammany Center or Channel 13 facility.



P. Chandler and M. Swang edit his video in the studios of Channel 13



MEF-1 teachers were fortunate to be able to view a Shuttle engine test at SSC

Activities (cont.)

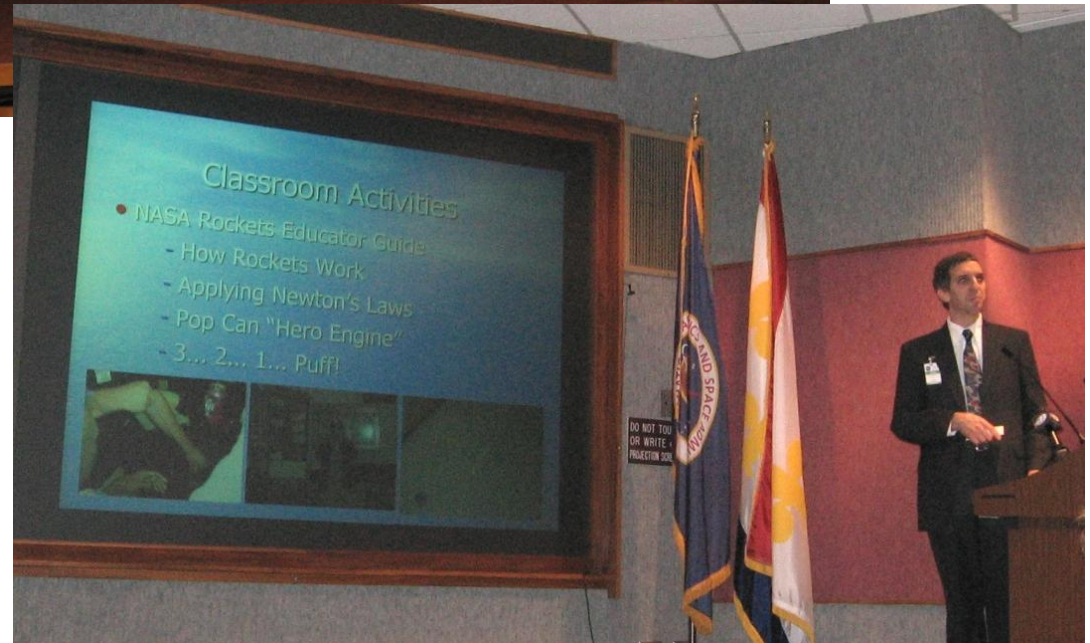


MEF-1 Teacher D. Nunez leads a fieldtrip from Covington HS to Michoud

Activities (cont.)

Final Briefing: Held in late April/early May at Michoud with MSFC personnel, sponsors and collaborators. Fellows demonstrate how they have integrated their Michoud / SSC experiences into the classroom, showcase their Personal Inquiry Portfolio and make a presentation on their activities, including showing their edited interview.

MEF 1 Final Briefings



Final Briefing (cont.):

The Fellows each receive a model of the STS with their name engraved and their Cohort's Logo included.

The 'event' is filmed by Ch. 13 or by St. Tammany as a permanent archive for the MEF project.



MEF 3 Fellows with their STS models at Michoud

SUMMARY / OUTLOOK

- Based upon Final Briefing and Classroom Inquiry Portfolios, the MEF project has been successful in bringing inquiry into the classroom.
- Student interest and enthusiasm remain high.
- Fellows have felt that they were 'part of history' while working at MAF. [Meeting STS-134/135 Astronauts was a 'thrill', as well.]
- Unfortunately, the range of activities at Michoud is shrinking more rapidly than anticipated. SSC may fill 'gap' for future cohorts of teachers.

Changing pedagogical patterns in the classroom is difficult and requires more than just providing teachers new lesson plans or showing them some new activities. The type of change sought through the MEF program involves a change in belief system: What they teach and How they teach are equally important and, ultimately, determine a student's skills and employment interests.

MEF is a means of achieving such an outcome.