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## ALS Manager's Telecon August 2005

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## **ALS MANAGER'S TELECON AUGUST 2005 9/1/05**

8/2 – 8/3

- Mission to Mars Professional Development Workshop held in Elkhart, IN conducted by Julia Hains-Allen.

Throughout August:

In Education and Outreach:

- North Carolina announces Mission to Mars after-school programs in 7 counties within the state. This after-school program is offered through 16 KidsPlus sites in each county, as well as additional child development centers in the area. This is a result of collaboration between North Carolina State University and NSCORT. Julia Hains-Allen and Macon Beck provided the training for 65 4-H extension educators in North Carolina this year.
- Mission To Mars was accepted as a 4-H project in 2005 and will be offered to thousands of 4-H kids in Indiana. In addition, North Carolina will offer a pilot 4 – H program in 2005 as well.
- Spaceapalooza, a 4 – H Mission To Mars Camp, was held for 66 youth and 14 adults at Chowan College in North Carolina.
- \$500,000/3 year Mission To Mars proposal was submitted to Exploration Systems Mission Directorate Research Office – Education Team to provide funding to further disseminate Mission To Mars nationwide.

8/8 – 8/21

- ALS NSCORT had an Indiana State Fair exhibit on display entitled “The Mission to Mars” designed emulating a circular, pod-type surface lander that kids and adults could walk through reading multiple large panels describing and illustrating the NASA research objectives and earth benefits being conducted by the Center. Complete with a hydroponic growth chamber growing real dwarf tomatoes and basil, and pinball-tilting table game of “Surviving Mars” an estimated 300,000 attendees experienced the exhibit during this 14 day period.

8/24

- Telecon involving many of our External Advisory Committee members to gain insight and opinion of adding a Plant-based Anaerobic-aerobic Bioreactor Linked Operation (PABLO) research project to the ALS NSCORT. This very productive telecon allowed the Co-Is of Dr. Ron Turco and Dr. Larry Neis of Purdue's Agronomy and Civil Engineering Departments, respectively, to hear first hand expectations of scope and approval of concept in launching this new and exciting project. This project compliments and offers collaboration with much of the research presently being conducted by the Center.

- Executive Committee Meeting held highlighting future milestones and providing updates on present changes within the Center.
  1. ALS NSCORT All-Center meeting to be held on Friday September 30, 2005 Purdue's Campus, Rawls Hall, Room 3058.
    - Guest speaker: Ray Wheeler, NASA Plant Physiologist, Kennedy Space Center, (also a member of our External Advisory Committee) will address the history of the ALS program, including its precursor program, the CELSS (Controlled-Environment Life Support System) program.
    - Lead by the Systems Group, work to further develop project roadmaps and strategic plans.
    - Each PI will be asked to submit project goals and timing.
    - Cary Mitchell to address preparation for the November 15<sup>th</sup> NASA's Critical Site review.
  2. Reporting deliverables for the ALS NSCORT:
    - Annual Report to NASA 9.30.2005
    - Critical Site Review 11.15 and 16.2005
    - NASA Taskbook 12.30.2005
  3. Center Research Project Changes:
    - **Associate Directors**
    - Dr. Jim Alleman resigned from the NSCORT to assume the Civil Engineering department head position at Iowa State University.
    - Dr. Kathy Banks resigned her positions as associate director, education and outreach liason, and Air and Water focus area lead to assume the interim department head of Civil Engineering at Purdue. She will remain on as an individual PI in her BREATHe research project.
    - **Systems Group**
    - Dr. Seza Orcun accepted the responsibilities to lead the Systems Group as Guy Gardner assumes teaching responsibilities. Guy Gardner remains on as a consultant to the NSCORT.
    - Dr. Jim Russell, from the University of Colorado, has accepted the position as a Systems Group Post-Doc and will begin his career with the NSCORT and at Purdue on September 12<sup>th</sup>.
    - **Education**
    - Julia Hains-Allen has accepted responsibility for lead of the NSCORT Education and Outreach Initiative.
    - **Air/Water and Solid Waste**
    - Dr. Al Heber from Agriculture and Biological Engineering has accepted the position of Associate Director and Focus Area Lead of a combined Air and Water with Solid Waste to form a new Resource Recovery Focus Area. Dr. Heber will also continue his research in the NSCORT in Air analysis and purification and BREATHe II. Dr. Heber has also volunteered to begin a new Trace Contaminant Analysis Center, supporting the NSCORT with analysis to further our understanding in the bio-kinetics between and within each research project.

4. EC Acceptance of the Plant-based Anaerobic-aerobic Bioreactor Linked Operation:

- This project will focus on adaptation and use of aerobic-anaerobic technologies for the treatment of three sources of waste (plant residues, greywater and human waste) on the Mars colony. Proposed is a dual system, one to handle the combination of plant waste and greywater and one to handle the human waste. While both will result in the formation of methane, the plant waste-grey water system (PABLO) will also be used to develop an organic plant growth media similar to compost. Human waste treatment system (WABLO) use the same approach but the resulting biosolids are not used in food production. These anaerobic digester systems will provide a robust treatment technology that will allow a rapid and consistent conversion of waste to energy.