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## STEM Collaborative Action Plan (STEMCAP)

### **Steering Committee Meeting October 5, 2006**

Office of the President, University of California, 10:00 a.m. – 3:00 p.m.

#### Attendees/Telecon\*:

Joe Adams, President/CEO, Discovery Science Center, Santa Ana  
Dr. Paula Arvedson, President, Board of Directors, California Space Education & Workforce Institute (CSEWI)  
Christine Bertrand, Executive Director, California Science Teachers Association  
Dr. Joan Bissell, Director, Teacher Education/Private Sector Collaborations, CSU Chancellor's Office\*  
Steve Bruckman, Executive Vice Chancellor, California Community Colleges  
Victoria Conner, Principal, Strategic Vitality, LLC, WIRED Grant Author, WIRED Partner  
Dr. Dennis Galligani, Executive Director, ARCHES  
LeeAnne Haworth, Executive Project Administrator, California Space Authority  
Deborah Hirsh, Executive Director, California Space Education and Workforce Institute (CSEWI)  
Silvia Liddicoat, Adjunct Professor, Engineering, Cal Poly San Luis Obispo  
Dr. Oscar Porter, Chief Operations Officer, MESA Program, Office of the President, University of California  
Donna Riordan, Program Director, California Council on Science and Technology  
Chris Rivers, MESA Program  
Melanie Sharp, Project Coordinator, Business Training Center, El Camino College  
Hon. Andrea Seastrand, Executive Director, California Space Authority  
Michael Tomasello, Senior Associate Director, MESA Program, UC Office of the President  
Kris Tueller, Senior Technical Operations Manager, Lockheed Martin Space Systems

#### RECAP

1. Michael Tomasello and Oscar Porter, MESA Program, welcomed the Steering Committee on behalf of the Office of the President, University of California.
2. Andrea Seastrand, Executive Director, California Space Authority, presented overview briefing of the "Workforce Innovation in Regional Economic Development (WIRED)" grant under which the STEMCAP project is being funded.
3. Ms. Seastrand asked group for self-introductions (see attendee list above)
4. Deborah Hirsh, Executive Director, California Space Education and Workforce Institute (CSEWI), project lead for the STEMCAP, gave overview of the Institute and of the STEMCAP project, outlining the proposed process for development of the STEM Collaborative Action Plan and explaining the proposed role of the STEMCAP Steering Committee.
5. Victoria Conner, Principal of Strategic Vitality, LLC, WIRED grant author and WIRED partner, presented information about the STEM survey developed by CSEWI and pointed out that there was a handout listing all Steering Committee members, including those parties still being recruited, suggesting that current Steering Committee members advise CSEWI of any organizational omissions from the Steering Committee that needed to be rectified. Dr. Galligani suggested that the association for independent universities be included. Organization is headed by Jonathan Brown.
6. Dr. Dennis Galligani, Executive Director, ARCHES (Alliance of Regional Collaborations for Heightened Educational Success) gave an overview of ARCHES:
  - Begun in July 2005

- Joint initiative of the California Education Round Table Intersegmental Coordinating Committee (ICC) and the California Academic Partnership Program
- Funds/supports start-up, competency building, program implementation of regional educational partnerships
- Supports local decision-making about educational priorities, projects
- Collaboration requirements: one school district, one community college, one four-year institution (independent college or university/UC/CSU), one business, one parent organization, one community organization

Dr. Galligani then led a group discussion on DESIRED OUTCOMES of the STEMCAP.

Discussion points raised:

- Influence STEM curriculum, K-U, addressing industry relevancy issues (prepare students for next step; at some point the next step is workforce entry).  
Programmatic examples:
  - career and technical education
  - experiential learning
  - internships
  - teacher institutes
  - summer industry teaching jobs
  - docent opportunities
- Influence STEM education policy
  - Teacher issues
  - Clearances (impacts student internships, university work on industry projects)
  - Avoid duplication of effort – use current policy recommendations, materials, e.g. CCST's
  - Long-term plan
- Seamless STEM transitioning – one level to next
  - Mechanisms
    - Blended programs
    - Pathway development
      - federal labs like LLNL/DOE Education Office programs
      - 45% of CSU teachers come from community colleges
      - Decision-making pathways – Career LATTICES
- Overarching goal:
  - More STEM students, teachers, professors, mentors
    - Use regional, grassroots model
    - Consider possibility of using Future Scientists and Engineers of America, newly acquired and being revamped by Discovery Science Center
    - Consider leveraging 109 community colleges
- Sustainability
  - Nonprofit incubators
  - Revisiting objectives over time (curriculum targets- ongoing needs assessments)
  - Consider ARCHES as sustainability resource (could it include career and technical education?)
    - Annual Conference
    - Regional Conferences
    - Website
    - Broad audience
- TOP THREE STEMCAP DESIRED OUTCOMES
  - Recruitment/retention of more STEM students, teachers, professors, mentors
    - Create Action Plan
    - Sustain with tools

- Influence academic curriculum, addressing industry relevancy
  - Creation of seamless STEM transitioning strategies – a continuum (elementary to workforce entry)
7. Networking lunch was generously provided by the MESA program
8. Victoria Conner facilitated discussion regarding alignment of STEM Collaborative Action Plan elements and determination of the working groups needed; Forum agenda:
- a. Suggestion made not to determine all the working groups or sub-groups needed at this point, but to start with three working groups aligning with the three desired outcomes (Attraction of STEM students, teachers, professors, mentors; Seamless STEM transitioning; STEM curriculum/industry relevancy) and let those groups break into sub-sets as needed, e.g. in Attraction working group there may need to be separate groups for attraction/retention of students and attraction/retention of teachers

THREE START-UP WORKING GROUPS (aligning with outcomes):

- Attraction/retention of STEM students, teachers, professors, mentors
  - Influence over curriculum, addressing industry relevancy
  - Creation of seamless STEM transitioning strategies – elementary through workforce entry
- b. Agenda discussion:
    - Draft November 1 agenda presented, questions ensued
      1. Why have it so soon? Need recruitment time
        - a. Resolved: FORUM DATE MOVED TO Saturday, DECEMBER 9, 06, to allow for more teacher participation, longer recruitment time
      2. Why have agenda so long? Industry needs and other topics already well understood.
        - a. Resolved: FORUM TO TAKE PLACE FROM 10:00 am – 3:00 pm
      3. Why include DOD STEM Point of Contact in larger Forum...needs to be briefed by Steering Committee and “steered” to support the Collaboration rather than individual projects
        - a. Resolved: INCLUDE KEITH THOMPSON, DOD STEM CONTACT, IN PRIVATE STEERING COMMITTEE BREAKFAST
    - Recruitment of working group participants discussed
      1. Conner advised that, by reducing “project overview” time at Forum, Steering Committee would need to take on responsibility for orienting working group recruits to overall STEMCAP project in order for them to be ready to actively participate December 9
      2. Steering Committee members requested a “cheat sheet” to use in orienting potential working group recruits. Need short (1-2 page) summary of WIRED, STEMCAP project overview, Steering Committee, Desired Outcomes, Working Groups, Process/Timeline, commitment requirements for working group members
      3. MESA program offered reimbursement funding for teacher participation in working groups (up to \$15,000 for mileage, travel...no accommodations)
      4. CSEWI or SVLLC to provide a “responsibility matrix”
      5. Process steps for Steering Committee members:
        - a. Analyze working group participant needs of each of three working groups
        - b. Determine appropriate three people to involve (one on each working group)

- c. Approach/contact/orient the above – recruit
- d. After approach, finalize working group assignment for each of three recruits
- e. Send contact information to CSEWI for follow-up
- f. CSEWI to confirm attendance, forward necessary 12/9/06 mat'ls