



<http://www.foundationcoalition.org>

From Jeff Froyd, Project Director

Preparations for the Share the Future IV Conference are continuing. Right now, twenty-six workshops are scheduled for the three-day conference. There are two all-day workshops on Sunday, as well as twenty-four two-hour workshops currently scheduled in six different sessions. A draft of the conference schedule is available at

http://www.foundationcoalition.org/events/conferences/share_the_future/schedule.html. This conference will provide an outstanding opportunity to improve your knowledge and skills in engineering education.

A continuing effort across the Foundation Coalition is to develop and then refine a set of concept-inventory-assessment instruments for courses that are core components for engineering majors. At present, twelve concept inventories are under development. Four were started in fall 2000; three more were begun in fall 2001, and five more were initiated just two months ago. The five newest concept inventories are **dynamics**, **chemistry**, **heat transfer**, **computer engineering**, and **electronics**. Work on all twelve instruments has generated stimulating and constructive conversations about what we teach in engineering and what students are learning. This newsletter contains summaries of the work on the first seven concept inventories.

Upcoming Events

Jan 3–5 **What was the question?: Team data analysis and the struggle for clarity amidst the clutter of a multicase study**, one-hour panel session, [16th Annual Conference on Interdisciplinary Qualitative Studies](#).

Jan 20–May 10 **On-line professional development for faculty: Ways of Knowing, Ways of Practice** The University of Wisconsin, with the FC, will offer facilitated dialogue (weekly conversations) on learning for faculty members at many universities. See http://fc1.tamu.edu/events/news/learning_online.html for information.

Mar 16–18 **Share the Future IV**, the cross-coalition conference, will be held in the Tempe Mission Palms Hotel and Conference Center, near Arizona State University.

Hotel reservations in the room block must be made by Feb 21:

http://www.foundationcoalition.org/events/conferences/share_the_future/hotel.html.

For on-line conference registration, go to

http://www.foundationcoalition.org/events/conferences/share_the_future/registration.html.

Concept Inventories Papers

Below is a listing of papers on Foundation Coalition concept inventories. Papers on the fluid mechanics or the circuits concept inventories have not been included. For more information on FC concept inventories, go to <http://www.foundationcoalition.org/home/keycomponents/concept/index.html> .

Introduction

[The Concept of the Concept Inventory Assessment Instrument](#)

Evans, D.L., and Hestenes, D.

Thermodynamics

[Development of Engineering Thermodynamics Concept Inventory Instruments](#)

Midkiff, C., Litzinger, T. A., and Evans, D. L.

Signals and Systems

- [Development of the Signals and Systems Concept Inventory \(SSCI\) Assessment Instrument](#)
Wage, K. E., and Buck, J. R.
- [The Continuous-time Signals and Systems Concept Inventory](#)
Wage, K. E., Buck, J. R., Welch, T. B., and Wright, C.
- [The Signals and Systems Concept Inventory](#)
Wage, K. E., Buck, J. R., Welch, T. B., and Wright, C.

Strength of Materials

[Development of an Engineering Strength of Material Concept Inventory Assessment Instrument](#)

Richardson, J., Morgan, J. R., and Evans, D. L.

Electromagnetics

[Concept Inventory Assessment Instruments for Electromagnetic Education](#)

Notaros, B. M.

Materials

[A Materials Concept Inventory for Introductory Materials Engineering](#)

Krause, S. J., Decker, J. C., Niska, J., Alford T. A., and Griffin, R.

Happy holidays!