ERC 2019

March 11 – 13, 2019
Westin Arlington

ASEE

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# *Core Facilities: Establishing and Managing*

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# Session Objective and Description

## Objective

- Examine the challenges, opportunities and advantages of establishing and managing core research facilities.

## Description

- Each panelist will address the first two key questions
- Next, we will ask each table to address some key questions. One attendee per table will be asked to capture the discussions.
- The information from each table will be compiled into a single document and posted on the conference web site.
- Each table will be asked to present one primary outcome from their discussion.

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# Key Issues Being Addressed in this Session

1. What is a core facility and what goes in it? Definition, scope and range.

2. Management and operation model/structure of core facilities (performance metrics).

3. Financial model.

4. Maintenance and enhancement.

5. How do core facilities relate to faculty start-up packages, equipment grants and externally funded projects with matching requirements?

6. What incentives are needed to encourage faculty to develop, contribute to and participate in a core facility?

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# Bill (U. Tennessee Knoxville viewpoint)

- Can we create a facility housing a type or suite of expensive equipment that has a sufficient user base (inside/outside) to justify its existence at UTK?

- What is the financial model (Revenues: User fee structure, strength of role of outsider users in usage, contribution of central/center/college funds?) (Costs: Tech support, supplies, maintenance, replacement?)?

- If we can check these two boxes, we have a core-facilities expert in Office of Research connected to Finance Admin to help establish (actually involved in creating answers to two questions, as well).

# John (Lehigh University viewpoint)

- A core facility contains a collection of related equipment (much of which is rather expensive) that enables and supports the research efforts of a sizable number of faculty members at the University.
  - Materials Characterization (Microscopy and Surface Science)
  - Nanofabrication and Clean Rooms
  - Health Research Hub
  - Large Structural Testing Facility
  - Machine Shops and Manufacturing (including Additive facilities)
  - High Performance Computing Facility
- All major equipment that the College/University helps to purchase and/or maintain almost always ends up in a core facility.  This applies to start-up packages but exceptions in cases of customized equipment do occasionally occur.
- Each core facility is lead by a faculty director assisted by a faculty advisory council.
- Budgets are developed, reviewed, and approved annually before any College or University subsidy support is provided.

# John (Core Facility Issues)

- Setting up charging models (internal and external) that balance the tension between user activity level and revenue generation.  These also have to consider per use versus temporal access approaches.

- Over customized equipment that limits the potential for a broad user base.

- Prioritization of equipment enhancement, maintenance, repair and retirement activities.

- Development and growth of the external user base.

- Agreements and contracts.

# Vahid (TN Tech – small college perspective)

- Standing up a core lab needs a "significant" amount of funding, and perseverance.

- Existing Core Lab Facility is supported by State-supported Centers of Excellence – *examples*:
  - Material Science Lab
    - Electron Microscopy
    - X-Ray Microanalysis
    - Metallography
  - Smart Grid Lab
    - Scale Power Grid Testbed
    - Power grid simulation and micro grid integration

- Currently developing a Core Lab Facility at the College level to provide space and specialized shared equipment.

# Vahid (TN Tech – small college perspective)

Challenges

- Prioritization of demands on the core lab. use
- Replacement of aging equipment is the greatest challenge
- Expensive maintenance contracts
- Supporting industry needs – testing services
- No start-up contributions at the moment
- IT support

# Questions?

# Now it is your turn!

**Round Table discussions**