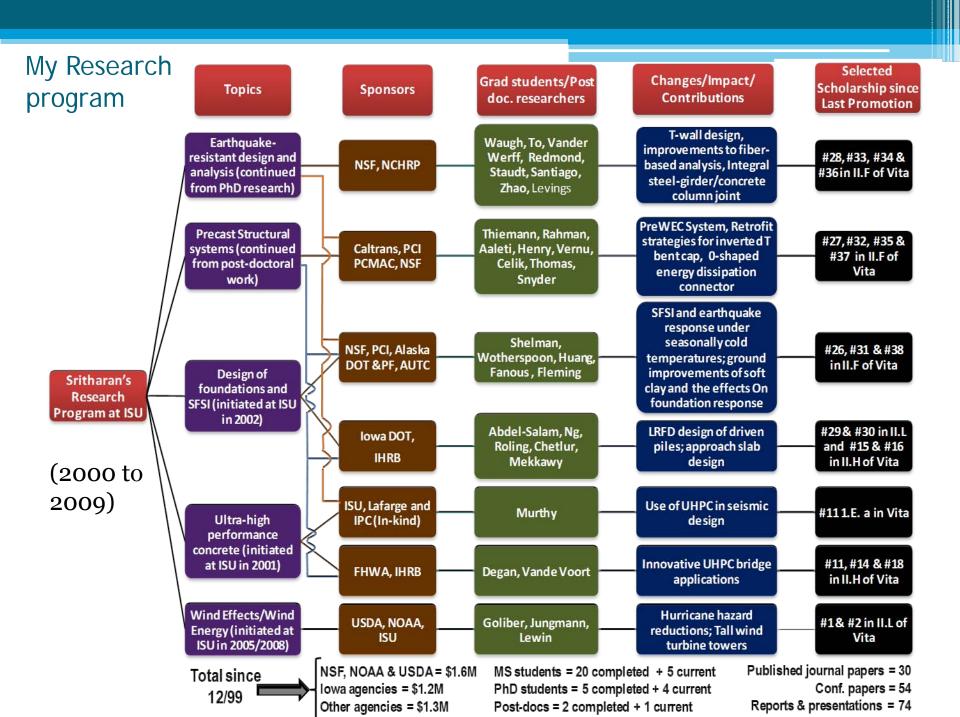
### WESEP 594 Seminar

Sri Sritharan

Civil, Construction and Environmental Engineering

#### Who am I?

- My Background
- Education
- Work Experience
- History at ISU
  - Jan. 2000 to present
  - Teaching
  - Service
  - Research
- Anything else?



# My Involvement in Wind Energy

- Wind Energy initiative (<a href="http://www.engineering.iastate.edu/wei">http://www.engineering.iastate.edu/wei</a>)
- Design of Tall Towers
  - Must withstand large lateral and torsional loads
- Use high performance concrete
- Modularize construction

#### Tall Towers

- Why tall towers?
- What is the common tower height?
- How tall is tall?
- Why concrete?
- Why modularize construction?

#### How do I do research?

- Identify the problem......
  - Why do we want to solve?
  - When do we need to solve this?
  - Who will benefit? (Impact; other end products)
  - Who will support the research?
  - Long term interest/potential for impact

# Proposal including research Plan

- Goal
- Objectives
- Tasks
  - Experiments
  - Analysis
- Budgets
- Other.....
- To what extent can research be planned?

#### Literature Review

- An important element
- Students seem to place less emphasis
- Focus first on directly related topics
- Identify and work on other areas

## Analytical approach

- Begin here
- Use existing data for validation
- Learn to verify results
- Use the approach to design tests and achieve desirable outcomes

## Experimental program

- Keep it simple as possible
- Don't try to learn the influence of all the variables in one test
- Strike a balance between complexity and likely outcomes

#### Collaboration

- Do when it makes sense
- Each person must have a role with specific purpose
- You must work towards achieving synergetic outcomes
- Diversity

### Questions?