

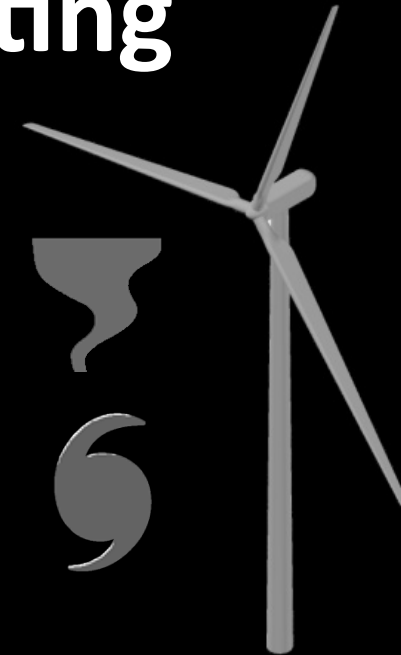


TEXAS TECH UNIVERSITY  
National Wind Institute



# National Wind Institute Spring 2017 Meeting

*The National Wind Institute is intended to serve as an intellectual hub for interdisciplinary and transdisciplinary **research, commercialization and education** related to wind science, wind energy, wind engineering and wind hazard mitigation.*



*Everything Wind!*

March 1, 2017

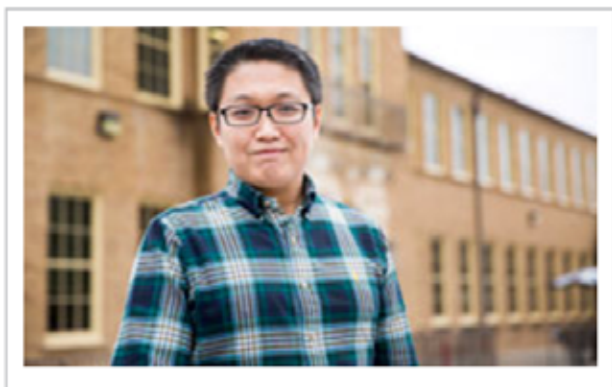


## Outline

- Promotion & Accolades
- Update on Strategic Plan
- Research Productivity
- Summary of EAB Report
- FY 2017 Priorities
- Financial Update
- New Initiatives



## Promotion and Accolades

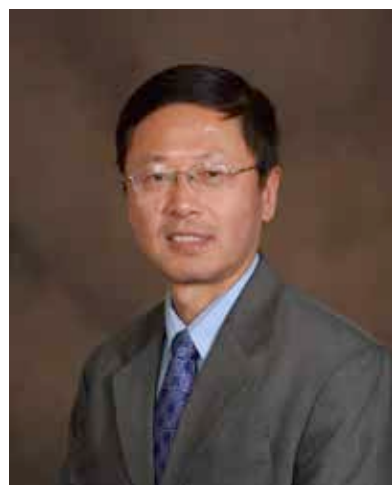


### Professor Receives CAREER Award from National Science Foundation

February 28, 2017

He's research involves wind turbine farm efficiency when dealing with disruptive weather.

tags: [Academics](#), [Achievements](#), [College of Engineering](#), [Provost](#), [Research](#),



I am pleased to appoint you as a member of the National Advisory Committee on Windstorm Impact Reduction (NACWIR or Committee). Your term will begin immediately and expire on September 30, 2017, as specified in the enclosed Committee charter.

Congratulations! You have been selected by the Structural Engineering Institute and the Engineering Mechanics Institute to receive the 2017 **Jack E. Cermak Medal** *"For advancing the field of wind engineering through development of advanced modeling and analysis approaches for wind load effects on structures such as high-rise buildings, long-span bridges, and wind turbines."* In selecting you for this award, the committee particularly noted that your research employs an analytical statistical approach to obtain accurate results of response of highly sensitive structures to wind.



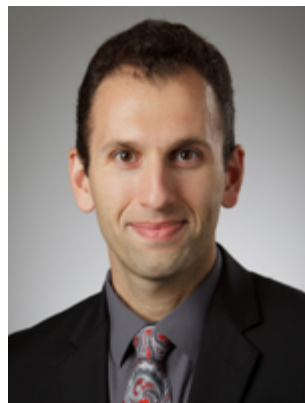
## Promotion and Accolades

February Board of Regents Meeting



Computer  
Science

Promotion from assistant professor to  
associate professor



Civil,  
Environmental,  
&  
Construction



Geosciences  
Faculty  
Development  
Leave



## Update on Strategic Plan (2014-2019)

### Field Site

- SWIFT Commissioning
- GLEAMM deployment
- DOE x-band radar

### Cyber

- WTM iOS app
- NHERI Design Safe
- Working group

### Partnership

- National labs
- State agencies
- Industry, non-profit

### Education

- BSWE
- PhD

### Wind Research

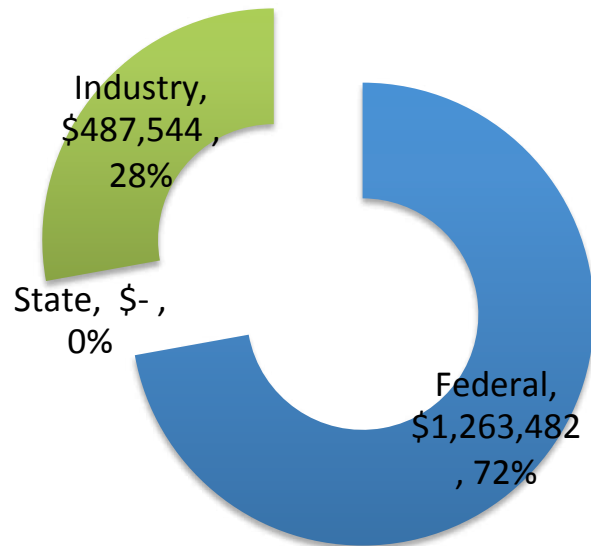
- Federal agencies
- Industry



## Research Productivity

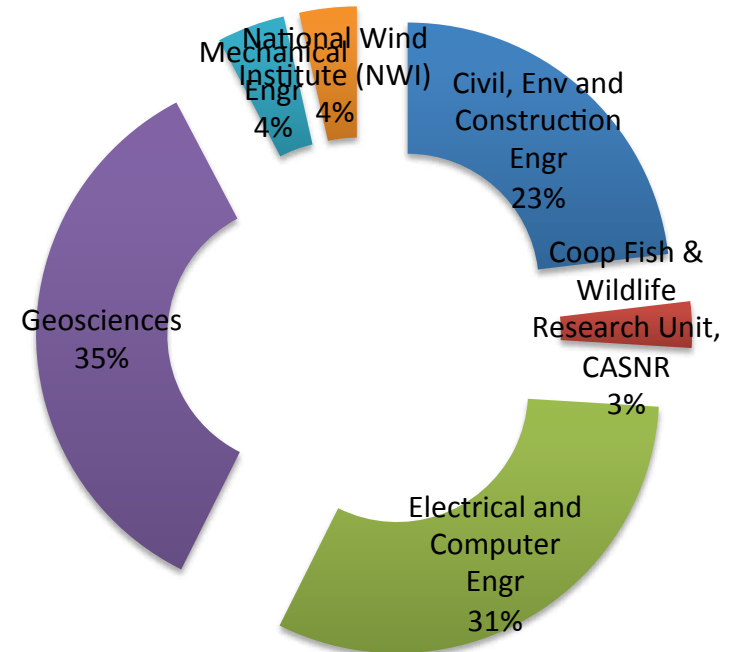
	FY2016	FY2017 (as of Feb)	FY2017/FY2016
<b>C1: Wind Energy</b>	945,263	196,128	21%
<b>C2: Smart Grid</b>	762,046	651,316	85%
<b>C3: Severe Storm</b>	752,661	574,839	76%
<b>C4: Wind Engineering</b>	295,908	328,743	111%

Sum 2,755,878



1,751,026

64%





## EAB Report

Annual meeting held on November 3, 2016 at Research Park

- Michael Young (RMS), David Minster (Sandia National Labs), Brian Smith (National Renewable Energy Laboratory), Tim Reinhold (Institute for Business and Home Safety), Bob Myer (BP Wind Energy)

### Strengths

- Strong demand for BSWE
- Clear commitment by staff and leadership team
- Significant capability in full scale and field studies
- Tier One
- History and reputation

### Weakness

- Instability for BSWE faculty and program
- Barrier to interdisciplinary research and education
- Lack of funding raising
- Limited progress in cyber infrastructure
- In danger of becoming too broad and unfocused



## EAB Report (Cont.)

### Recommendations

- Hire a permanent director
- Provide stability to BSWE faculty
- Integrate or separate wind energy and wind hazard
- Focus or broaden the scope of future research
- Diversify funding sources
- Develop a clear strategy for wind hazard
- Funnel seed money towards strategic initiatives
- Develop stronger national and international partnerships
- Make field data available as open source





## FY 2017 Priorities

### Facilities and Operation

- Improve laboratory safety
  - Annual safety trainings
  - Weekly technical meetings
- Maximize facility use & data access
  - Upgrade to tornado simulator
  - Proposed billing rates for wind tunnel and tornado simulator
  - Proposed data transfer to Design Safe
  - Expanded use of WTM in agriculture and disaster
- Align NWI operation more with faculty needs
  - Allocation of technician time
  - Support of workshops and conferences
- Improve communication
  - Website, monthly newsletters, annual reports, news releases



## FY 2017 Priorities (Cont.)

### Education

- Recruitment, retention, funding
  - Nomination to Presidential Fellowship
  - Mehta Fellowship

### Research

- Develop a clear vision for wind hazard
  - SWOT analysis
- Enhance industry & international partnerships
  - Research Coordination Network proposal
  - Industry-sponsored projects
- Build up capability in capturing large, complex funding opportunities
  - DOE Innovative Pathways proposal, NSF MRI



## Financial Update

### Overhead Return

- 40%: \$54k
- 25% matching: \$164k
- Deduction: \$124k
- Net: \$94k

### Distribution

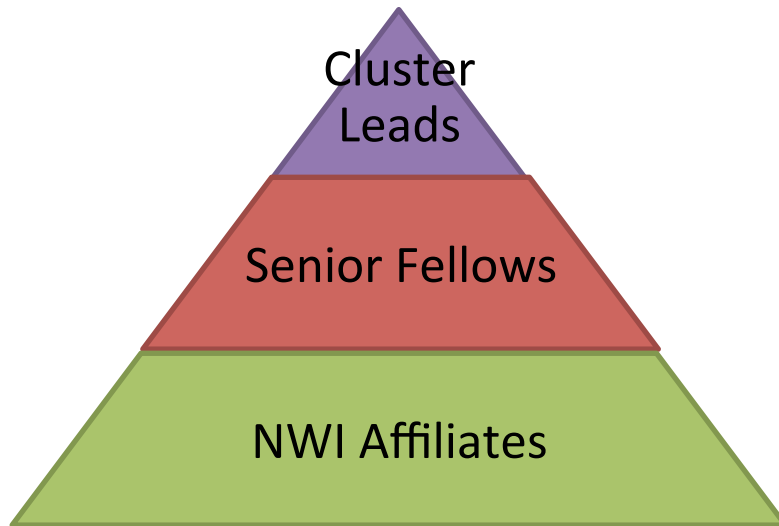
- NWI PI (60% returned): \$32k
- Incentive: \$25k
- Remaining: Facilities, technical personnel, travels, carry-forward

### Challenges Ahead

- Cut to federal funding
- Cut to special lines by state
- Cut to overhead return



## Cluster Structure



- **Wind Energy**
- **Smart Grid**
- **Severe Storm**
- **Wind Engineering**

### Lead

- 1 course per year
- \$100k discretionary fund a year
- \$500k RRE a year
- Lead interdisciplinary/multi-institution proposals
- Interface with funding agencies & partners

### Senior Fellow

- 3-6 per area
- 2 courses per year
- \$50k discretionary fund a year
- ~\$250k RRE a year
- Participate in interdisciplinary/multi-institution proposals a year
- Supervise PhD students



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**Thank you.  
Comments?**