GRAND CHALLENGE INDUSTRY MENTORS

The National Academy of Engineering (NAE) identified 14 Grand Challenges for Engineering in the 21st Century. The challenges represent matters affecting quality of life, and address larger issues related to security, health, and sustainability.

In March 2018, SMU joined over 70 engineering schools to support the NAE’s Grand Challenges Scholars Program. By tackling a Grand Challenge, student scholars will learn to solve problems thorough investigation, technical inquiry and develop an understanding of the scientific process. Student’s research is enriched through multi-disciplinary study and engagement with industry and the global community.

Each challenge falls into one of these 4 categories:

- **ENERGY & ENVIRONMENT**
- **SECURITY**
- **HEALTH**
- **Quality of Life**

The 14 challenges are the following:

- Advance Personalized Learning
- Prevent Nuclear Terror
- Enhance Virtual Reality
- Make Solar Energy Economical
- Engineer Better Medicines
- Reverse Engineer the Brain
- Restore and Improve Urban Infrastructure
- Advance Health Informatics
- Provide Access to Clean Water
- Secure Cyberspace
- Manage the Nitrogen Cycle
- Provide Energy from Fusion
- Develop Carbon Sequestration Methods
- Engineer the Tools of Scientific Discovery

HELP STUDENTS DESIGN & CONDUCT UNIQUE RESEARCH

Students work closely with SMU faculty to implement a research portfolio while an industry mentor assists with identifying appropriate internships, volunteer opportunities and entrepreneurial activities.

Upon completion of their Grand Challenge Portfolio, students qualify to **graduate with distinction** and receive recognition from the National Academy of Engineering.
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Grand Challenges Industry Mentors, (GCIM), help students develop ideas, set goals, evaluate options and assess outcomes related to their Grand Challenge. Students meet with a GCIM to design and execute an action plan for mapping research to the real world via work experiences and other activities.

GCIM PROFILE

- Resourceful and willing to network on behalf of students
- Knowledgeable or curious in Grand Challenges Domains
- Time to meet with students a minimum of three times a semester

GCIM ROLE

- Meet with students to brainstorm ideas
- Willingness to coach students and develop action plans
- Connect students to community engagement and/or internship opportunities
- Introduce students to entrepreneurs and experts
- Check-in on project/research progress
- Support student’s professional development:
  - Review resume
  - Conduct mock interviews
  - Presentation coaching

GCIM REQUIREMENTS

- Commit to working with a student a minimum of one academic year
- Attend Industry Mentor Training
- Review portfolio requirements
- Meet with student 3 times a semester
- Write a reference letter

RESOURCES AVAILABLE TO GCIM

- Mentor training and support
  - Program rules and restrictions
  - Best practices for mentoring and coaching
  - Hart Center staff counsel
- University calendar of events/activities
- Access to meeting rooms (by appt.)

Grand Challenge Scholars also have exclusive access to Speaker Series with industry guest speakers and Student Seminars!

For questions or concerns contact:
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