

Grand Challenges Scholar Application Form

The National Academy of Engineering has identified fourteen challenges for engineers of the future. This list includes issues such as: making solar energy economical; advancing health informatics; providing access to clear water; and reverse engineering the brain. The National Academy of Engineering is proposing that engineering schools around the world create programs that combine curricular and co-curricular activities that address these challenges. The Grand Challenges Scholar Program aims to recognize graduating seniors who have engaged in educational and co-curricular activities surrounding these grand challenge topics. Students will receive a certificate from the National Academy of Engineering recognizing them as GC Scholars, will be recognized at Commencement as well as potentially be eligible for a cash prize.

There are 5 competencies to being named a Grand Challenges scholar. Detailed information on the 5 competencies is available online: <http://en.coe.pku.edu.cn/gcsp/index.htm>.

Please complete the following application explaining your contributions towards addressing the grand challenges according to the 5 competencies below.

Please complete the following fields of information:

Name _____

PKUID _____

Major _____

GPA _____

Expected Grad Date (MM/YR) _____

Email _____

Cell Phone _____

Indicate your Grand Challenges area of focus:

Sustainability:

- Making solar energy economical
- Providing energy from fusion
- Developing carbon sequestration methods
- Managing the nitrogen cycle
- Providing access to clean water

Security:

- Securing cyberspace
- Preventing nuclear terror
- Restoring and improving urban infrastructure

Health:

- Engineering Better Medicines
- Advancing Health Informatics
- Reverse engineering the brain

Joy of Living:

- Enhancing virtual reality
- Advancing personalize learning
- Engineering the tools of scientific discovery

RESEARCH/CREATIVITY

Research or project experiences related to a Grand Challenge. Please describe any and all projects or research you have participated in related to an identified Grand Challenge.

MULTIDISCIPLINARITY

Participation in an “engineering plus” curriculum that prepares engineering students to work at the overlap between engineering and non-engineering disciplines. Describe enrollment in courses outside the engineering curriculum that will complement the technical curriculum such as public policy, business, law, ethics, art, sociology, natural sciences, etc. This could include pursuing a minor or enrolling in courses connected to Grand Challenge themes

ENTREPRENEURSHIP

Understanding gained through experiencing viable business models. Students should be

exposed to the process of translating invention to innovation; to develop market ventures that scale to global solutions to the Grand Challenges.

GLOBAL PERSPECTIVE

Understanding gained through global or different cultural (global or local) experiences that develops the perspective necessary to understand global challenges or that lead to innovations in a global economy.

SERVICE LEARNING

Addressing societal problems through service learning, and/or social entrepreneurship. Participation in a curricular or co-curricular component that deepens social awareness and develops the motivation to bring technical expertise to bear on societal problems.

You can use attached pages to describe your development of the above 5 competencies.

Please submit the Application form with a current copy of your Resume / CV to Dr. Jie liu (jie.liu@pku.edu.cn) by April 15 2018.