Break Out Session Report:
The Impact of GCSP on Engineering Education and Engineering Research
How might the GCSP movement positively affect engineering education? At your institution? In your country? In your or your students careers?

- Students in this discussion session commented positively about GCSP. Through this program, they have opportunities to:
  - Take courses in other disciplines
  - Participate in exchange programs and study overseas
  - Work on research projects or community services
  - Get trained better, which helps students in their future career in terms of searching for jobs or doing postgraduate work

- Faculty members in this session commented GCSP can
  - Provide opportunities for students’ learning beyond textbooks
  - Boost student exchanges and inter-institutional collaborations both locally and internationally
  - Help universities attract talented students to study engineering
  - Encourage students to aim high and become future business and technology leaders
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- Students in this discussion session requested:
  - Expand the program so that more students could benefit
  - Keep the high standard in selecting students so that the program maintains a good reputation

- Faculty members in this session discussed several difficulties one may encounter with this program and possible solutions:
  - Support from different levels of the university is crucial, and most importantly, university presidents should support it
  - Students’ workload is already too high, and the possibility of incorporating GCSP in existing courses can be considered
  - The number of students that can benefit from GCSP is small, and it’s necessary to convince government to realize its importance
How might the GCSP movement positively affect engineering research? At your institution? In your country? In your or your students careers?

- To students, the research component is important:
  - It helps students get hands-on experience
  - It offers opportunity for innovation and discovery
  - It leads to real-world applications of textbook knowledge
  - It enables students to make contributions to the solutions of grand challenge problems for the planet

- To faculty members, GCSP can benefit their research:
  - It helps attract talented students to work on research projects
  - Students can come up with good ideas and make discoveries
  - Many GCSP students may want to pursue postgraduate work
  - It can boost collaborations with high-tech companies and make an impact on industry
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- Discussions on good practice, and solutions to possible problems:
  - Undergraduate students can receive 100% royalty of their share after expenses for a patent, which encourages students to make innovation and discovery and apply for patents
  - Recognition as GCSP mentors should be given to faculty members to provide incentive for them to participate in this program
  - Provide opportunities to undergraduate students to participate in faculty members’ existing research projects
  - Internal funding should be allocated to students’ projects
  - Attracting external funding is needed from both government and industry
  - Encourage collaborations across institutions to provide a wider range of projects and exchange good ideas
Parking Lot Issues

- Participants in this discussion session suggest:
  - Use social media for communications
  - A common platform is needed, as different software, such as WhatsApp, Line and WeChat, are used in different places

- Align GCSP Activities with government and industry initiatives:
  - An example is sustainability, which is an important area in many places in the world
  - Pay attention to emerging fields, such as health technology, AI and robotics, which are priority areas of many governments and technology companies