

## Student Program in APCChE 2019

### Call for Research Proposals from Youth:

### Contribution of Chemical Engineering to SDGs

The SDGs (Sustainable Development Goals) have been adopted at the United Nations Summit in 2015 with their 17 goals and 169 targets to be achieved by 2030. 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019) will be held on 23-27 September 2019 with the theme: *Chemical Engineering for SDGs*. To encourage students' challenge to this initiative, the Student Program will be held on 23 September. This calls for research proposals that are not constrained by conventional practice to further applications of chemical engineering to achieve the SDGs. Experienced researchers and engineers with knowledge and skills who could help conduct proposed research, research and governmental institutions promoting technology transfer, socially responsible investors considering the environment, society, governance will be invited as audience in an interactive session. The expected result of this program is collaboration and actions in the region and beyond. Please submit a proposal by March 2019.

**Application Guidelines:** We call for proposals for the following two categories (A) and (B).

(A) Technical research proposal to solve concrete problems

Please propose a concept to solve regionally specific issues, preliminarily examine literature surveys, interviews with stakeholders, etc., the anticipated technological and economic bottlenecks, measures necessary to solve them, etc.

Examples: *The essential cause of the plastic waste problems and how to solve it?*

*How do we balance low carbon and stable energy supply?*

*How will you prepare for the huge waste of mega solar to be disposed in 20 years?*

*How can we proceed with district cooling and air conditioning in tropical areas with low environmental impact?*

Any subjects related to chemical engineering could be proposed. Please freely set the proposal topic with reference to but not constrained by the above examples. Please explain concretely the expertise, technology, research equipment / information, research funds etc. needed for the execution of that proposal.

(B) Goals, targets and Indicators to measure the impact of chemical engineering on the SDGs

While the contribution to the SDGs is drawing attention, indicators to measure the impact of chemical engineering on the SDGs are needed. We refer to existing SDG indicators (eg <https://unstats.un.org/sdgs/indicators/indicators-list/>) which are macro-indicators and not necessarily can be aggregated from the bottom up. Please propose new indicators to measure the impact of chemical industry on the SDGs.

**Proposal Format:** A4 within 10 pages, English, Word or PDF. We recommend an outline as follows.

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| 1. Proposed category (A) or (B)  | 6. Literature survey / interview results              |
| 2. Abstract of 1 page (including proposal representative's affiliation and contact address, the abstract will be posted on APCChE website) | 7. Research question and hypothesis                   |
| 3. Problem to be addressed   | 8. Research method / procedures                       |
| 4. SDGs targets and Indicators   | 9. Research plan for the next three years             |
| 5. Purpose and outlook of the proposal   | 10. Partner candidates, recruitment for collaborators |
|  | 11. Budget  |
|  | 12. References  |

**Peer Review and Financial Support:** Submitted proposals will be reviewed by the organizing committee members. Presentation slots will be allocated for accepted proposals, while financial support (up to JPY100,000 and the exemption from conference registration fees for 5 participants per group) will be granted for outstanding proposals.

**Impact Prize:** Based on the feedback of the organizing committee members and the audience on the presentations, some prizes will be awarded to excellent ones.

**Proposal Deadline:** March 31, 2019 tentatively. Details will be posted later at <http://apcche2019.org/>.