

ASPIRE Forum 2017

Overview

Nanyang Technological University, Singapore (NTU Singapore) hosted the ASPIRE Forum 2017 with the theme “Sustainable and Liveable Cities” from 9 to 15 July. Member universities were represented by their Vice President, professors, administrators and students, totaling 62 participants. As in previous years, the Forum included the Student Workshop, the ASPIRE Symposium, and the Vice Presidents and Senior Staff (VP-SS) Meeting.



ASPIRE Student Workshop

9-15 July 2017

Twenty-five students from ASPIRE League member universities participated in the weeklong Student Workshop, which is comprised of lectures, site visits and group discussions. The event again welcomed students from Europe’s IDEA League, including two students from Politecnico di Milano, one student from Delft University of Technology, one student from ETH Zurich, and one student from RWTH Aachen University.

From the first day, the Student Workshop participants were separated into five groups of six students each, including one student from each of the five ASPIRE League member universities and one from an IDEA League member university. This grouping was successful in bringing together students from diverse backgrounds. On the evening of 9 July, the students participated

in a welcome dinner and icebreaker games to get to know their group members. Then each group selected the topic that they would work on for the rest of the Workshop.

Through keynote lectures delivered by NTU professors and external speakers, and visits to REC Singapore, NEWater and the Rolls-Royce Plant, the students gained knowledge of Singapore's initiatives in building a sustainable and liveable city and observed first-hand the top-notch technology of industry leaders such as REC and Rolls-Royce.

The week culminated in the students' presentations to the Vice Presidents. Working in their respective groups, the students pooled their knowledge to develop innovative and far-sighted proposals for achieving a sustainable and liveable city. Their topics included water management in Hong Kong and Singapore within the "ASPIRE Framework"; the outlook for the future of sustainable and liveable urban mobility; avant-garde initiatives to build green buildings; green energies such as smart grid, smart window and energy produced by personal action, and the management of urban water through waterless toilets, intelligent irrigation systems, intelligent leakage detection, and salt-farm skyscrapers.

The five Vice Presidents were very impressed by the presentations. The diversity of the students' research backgrounds injected vigor into the groups and sparked innovative ideas. In the spirit of competition and in recognition of best efforts, one Best Presenter and one Best Group Presentation were selected. The student from the Philosophy department of Tsinghua University obtained the award for Best Presenter, marking the first time that a student with a non-engineering background obtained this award. The Best Group Presentation award was made to the group whose theme was green energies.

After their presentations, the students went on a half-day city tour to visit Singapore landmarks, such as Gardens by the Bay, Marina Bay Sands and the Singapore Flyer. The students enjoyed themselves very much after the intensive workshop and their friendships were further strengthened.



Visit to Centre for Liveable Cities and NEWater Plant

13 July 2017

Vice-Presidents, senior staff and ASPIRE Symposium speakers were invited to visit the Centre for Liveable Cities and the NEWater Visitor Centre on the afternoon of 13 July 2017. During the visit to the Centre for Liveable Cities, the Centre's Executive Director, Mr KHOO Teng Chye, briefed the participants on Singapore's efforts to promote sustainability and liveability in urban planning and described the Centre's work in developing and sharing best practices in this field. The participants were also led on a tour of the Singapore City Gallery, which employed interactive exhibits and architectural models to tell the story of Singapore's urban transformation in the past fifty years.

At the NEWater Visitor Centre, the participants were provided the opportunity to learn about Singapore's novel approach towards water sustainability. "NEWater" is high-grade reclaimed water made through the purification and treatment of Singapore's waste water. A pillar of Singapore's water sustainability strategy, NEWater currently meets 40% of Singapore's water requirements and is expected to meet up to 55% of Singapore's future water demand by 2060. The participants were given a walking tour of the NEWater plant, during which they learnt about the history of Singapore's water sustainability and sufficiency efforts, as well as the three major

water purification processes used in the production of NEWater: micro/ultrafiltration, reverse osmosis, and ultraviolet disinfection.

The two site visits allowed the participants to deepen their understanding and appreciation of Singapore's efforts in developing innovative solutions for contemporary urban sustainability and liveability challenges.



ASPIRE Symposium

13 July 2017 (am)

Professor ER Meng Hwa, Chairperson of the ASPIRE League and Vice President (International Affairs), NTU, opened the ASPIRE Symposium with a warm welcome to all members and students. He introduced this year's theme, "Sustainable and Liveable Cities", highlighting the challenges posed to the sustainability and the liveability of environment with the rise of Asia and discussed the initiatives taken by Singapore and NTU.

In accordance with past practices, one faculty member from each member university was invited to speak on a topic related to this year's theme. At the Symposium, speakers and participants discussed and exchanged ideas on various topics, including geo-energy and geo-environment; soft materials for sustainable cities; the Paris Agreement and challenges and opportunities for Singapore; Tokyo Tech's Green Supercomputer, TSUBAME, and its large-scale applications on computational fluid dynamics, and China's water resources and sustainable management under the changing environments. In addition, Tokyo Tech's Professor Takafumi UENO made a presentation on the projects funded by the ASPIRE League Research Grant (Type 1) in 2017, which are conducted in collaboration with researchers from ASPIRE League member universities.

The 30 students attending the ASPIRE Workshop also attended and participated in the Symposium. They were able to learn about the latest concepts and technologies related to sustainable and liveable cities, which assisted in bringing inspiration to their group projects.



Vice Presidents and Senior Staff (VP-SS) Meeting

13 July 2017 (pm)

The VP-SS Meeting began with welcome remarks by Chairperson Prof ER Meng Hwa. Vice Presidents from each member university reported on their respective university's engagements and activities related to ASPIRE League and highlighted recent achievements of their universities. Mr Toku Hirasawa reported on behalf of ASPIRE League Secretariat on the League's activities for the period July 2016 to July 2017. Members agreed on the date for ASPIRE Forum 2018 and discussed a range of topics, including membership, research collaboration, and cooperation with the IDEA League.



Summary

The Student Workshop, Symposium, and VP-SS meeting offered many opportunities for fruitful discussions. Each ASPIRE League member university was able to shed new light on how to make the League's activities unique and bring the League to new heights. In addition, through the Student Workshop, the students deepened their knowledge related to the overarching theme of "Sustainable and Liveable Cities," gained better understanding of Singapore, and built friendships across different nationalities and cultures.

