

MIT–Singapore University of Technology and Design Collaboration

The collaboration between MIT and the Singapore University of Technology and Design (SUTD), which builds on more than a decade of MIT's education and research activities in Singapore, is to date the largest and most complex university capacity-building endeavor in MIT's history. Founded in 2009 through a partnership between MIT and Singapore's government, the [MIT–SUTD Collaboration](#) was established to promote a better exchange of information between MIT and SUTD. This collaboration is multifaceted and includes the development of curricula, establishment of a major co-located research center, and recruitment and professional development of SUTD's university leadership team and faculty.

Students in the fifth cohort at SUTD began their 3.5-year journey on May 16, 2016. Of the approximately 467 students, 38% were female, a percentage that is slightly below that of previous years. An increase of 81 matriculated students from the 2015 to the 2016 cohort was attributable in large part to the positive report from an employment survey administered by the Ministry of Education to the first group of SUTD graduates, who graduated in August 2015. The survey showed comparable hiring rates for SUTD graduates compared with graduates in engineering and architecture from other Singapore universities, but with a slightly higher monthly salary. Although MIT and SUTD continue to be heartened by the increase in student numbers from the third to the fifth cohort (264 entered in the second cohort—the low point for registrations), both universities remain focused on student recruitment as a top priority.

In an effort to help improve recruitment, MIT for the first time offered a winter program to 40 SUTD students over Independent Activities Period (IAP) in January 2015. In January 2016, the number of SUTD students participating in this program increased to 60. A third winter program is being planned for January 2017, again for 60 students. In this program, students from SUTD join MIT students for three weeks during IAP, taking approximately 25 to 30 classes funded by the collaboration. This program has been a win-win for both institutions, because SUTD can market the opportunity to participate in an exchange program with MIT as a recruiting tool, and MIT faculty, postdoctoral associates, and other personnel are able to apply for funding to develop new IAP classes or significantly improve existing ones.

Faculty and lecturers at SUTD now number around 130, of whom 87 are either tenured or on a tenure track. Recruiting world-class faculty is a top priority of the university, and recruiting occurs on a continuing basis. Several important senior faculty hires were accomplished in the past year, including a replacement for the head of the Engineering and Systems Design pillar, a replacement for head of the Architecture and Sustainable Design pillar, an associate head of the pillar, a professor in Engineering Product Development with a leadership position in the Digital Manufacturing and Design Research Center, and a co-director of the International Design Center (IDC).

As noted in the report for academic year 2015, all 87 of the courses contracted for development at MIT were completed and transferred to SUTD. Exceeding the contract obligation, MIT developed an additional four courses, for a total of 91, with another course due from the faculty developer in fall 2016.

To date, approximately 40 MIT faculty members have participated in short-term (two- or four-week) residencies in support of SUTD classes, and 13 faculty members have participated or are currently participating in the 4.5-month pillar head residency set out in the contract. MIT is on track to complete its co-teaching obligation by the end of summer 2016, when MIT faculty will have spent 40 two-week and 40 four-week residencies at SUTD, assisting with the teaching of classes as well as mentoring faculty and students. The pillar head residencies will also be completed by the end of the summer of 2016.

Four more SUTD faculty participated in the MIT–SUTD Faculty Development (Teach-the-Teacher) Program this year. Faculty in this program are in residence at the MIT campus for six to nine months. The original contract envisioned that 70 faculty members would participate in this program over the seven-year contract, but it has proven difficult for SUTD to send a full complement of faculty because of resource issues. To date, 35 faculty have participated in this program. Another four faculty members are expected in September 2016, plus an additional four in January 2017.

In 2016, for a fifth summer, the MIT International Science and Technology Initiatives Singapore program will send 30 MIT students to SUTD to help with establishing clubs, extracurricular activities, and leadership training. Summer 2016 will also mark the arrival at MIT of 34 students from SUTD for the fourth offering of a 10-week Global Leadership Program. These students, chosen from approximately 200 applicants, participate in a wide variety of activities, including a summer-long electric boat design challenge, art courses, a course on globalization, a wilderness experience, and visits to local industry. SUTD student evaluations of this program have been overwhelmingly positive. Current plans are for a limited version of the Global Leadership Program to run in the summer of 2017. There will be no MIT International Science and Technology Initiatives program in summer 2017; the funding for the program will have ended.

Current budgets for research at MIT in the MIT–SUTD collaboration run about \$2 million per year for a total of \$20 million over the 10-year research component contract. Approximately 57 faculty researchers and students at MIT are working on projects associated with the IDC. To date, more than 1,000 conference or journal publications and presentations have resulted from the combined efforts of the IDC at both MIT and SUTD. Professor John Fernandez (Architecture) resigned his role in November as IDC co-director to assume the position of director of the MIT Environmental Solutions Initiative. Efforts to find a successor have proven to be challenging. Professor of the Practice Chris Magee (Institute for Data, Systems, and Society) will remain as the primary co-director of the IDC until a successor for John Fernandez is identified. Collaboration Director John Brisson has also stepped in to help manage the center's day-to-day operations. Chris Magee and Professor Kris Wood, SUTD IDC co-director, conducted a research summit in January 2016 in Singapore to encourage more

collaborative research between the two universities. Professor Lucienne Blessing was also hired as the co-director of the SUTD IDC in Singapore.

As noted in the AY2015 report, the IDC co-directors and the collaboration's director, John Brisson, have been reviewing the IDC's organization and structure with an eye toward long-term sustainability past the potential end of the collaboration research funding in 2020. Two important hires were made to address the IDC's future: Deb Payson, director of strategy and outreach (February 2015), and Lennon Rodgers, research scientist (June 2015). It is hoped that both hires will result in a more outward-facing IDC. This past year has seen progress toward developing an industry consortium, including two Industry Day forums where interested companies were invited for a day to learn more about the IDC. The staff is currently working with the Office of Sponsored Programs to establish the legal framework for such a consortium.

MIT and SUTD began a discussion in 2014 to extend the education component of the contract, which is set to end on June 30, 2017. Progress remains slow, but efforts to reach a satisfactory agreement will continue in the coming months.

Martin Schmidt, Philip Khoury, and Ian Waitz serve on the governing board. Thomas Magnanti is on leave from MIT to serve as SUTD's founding president. John Brisson is the collaboration's director at MIT.

John Brisson
Collaboration Director