SINGAPORE-MIT ALLIANCE FOR RESEARCH AND TECHNOLOGY CENTRE

The Singapore-MIT Alliance for Research and Technology (SMART) (*http://smart.mit.edu*) Centre is a major research enterprise established by MIT in partnership with the National Research Foundation of Singapore. The SMART Centre serves as an intellectual hub for research interactions between MIT and Singapore at the frontiers of science and technology. The goals and aims of the SMART Centre are to:

- Identify and carry out research on critical problems of societal significance and develop innovative solutions through its Interdisciplinary Research Groups (IRGs)
- Become a magnet for attracting and anchoring global research talent to Singapore
- Develop robust partnerships with local universities and institutions in Singapore
- Engage in graduate education by co-advising local doctoral students and postdoctoral associates
- Help instill a culture of translational research, entrepreneurship and technology transfer through the SMART Innovation Centre

Established in 2007, the SMART Centre further expands and develops this partnership between MIT and Singapore and allows faculty, researchers and graduate students from MIT to collaborate with their counterparts from universities, polytechnics, research institutes, governmental agencies, and industry in Singapore and in Asia.

The SMART Centre is MIT's first research centre outside of Cambridge, and its largest international research endeavor. The centre is also the first entity in the Campus for Research Excellence and Technological Enterprise (CREATE). Other universities located at CREATE are ETH Zurich, Cambridge University, Technical University Munich, Peking University, Technion Israel Institute of Technology, and University of California, Berkeley.

SMART Interdisciplinary Research Groups

The SMART Centre allows researchers from MIT to collaborate with their counterparts from universities, research institutes and industries in Singapore and Asia to perform interdisciplinary, experimental, computational and translational research. With many MIT faculty members, postdoctoral fellows, PhD students, and staff participating at SMART, these IRGs are helping promote a vibrant knowledge-based atmosphere in Singapore.

Five IRGs are under the SMART Centre, each headed by a senior MIT faculty member: Antimicrobial Resistance, BioSystems and Micromechanics, Disruptive & Sustainable Technologies for Agricultural Precision, Future Urban Mobility, and Low Energy Electronic Systems.

Innovation Centre

In addition to the IRGs that carry out research, SMART has also set up an Innovation Centre (*https://smart.mit.edu/innovation-centre/about-smart-innovation-centre*) modeled on MIT's Deshpande Center but adapted to the culture and practices of Singapore. Its mission is to instill a culture of translational research, entrepreneurship, and technology transfer. Two types of awards are given: Ignition Grants, for very early proof-of-principle development and Innovation Grants, for further proof-of-concept development.

SMART Centre Graduate Fellowship Programme

The Graduate Fellowship Programme is open to currently enrolled first-year students and entering doctoral students from the Nanyang Technological University (NTU) and the National University of Singapore (NUS), Singapore University for Technology and Design (SUTD), and Singapore Management University (SMU). Its goal is to attract and retain the best and most talented doctoral students from Singapore, the region and beyond, giving them the unique opportunity to be involved in strategic research at the SMART Centre and to work with faculty members from MIT, NTU, NUS, SUTD, and SMU.

Students selected for the programme receive up to four years of full tuition fees at the student's home university, a monthly stipend, and a travel grant for a six-month residency at MIT.

SMART Centre Undergraduate Research Opportunities Programme

The SMART Undergraduate Research Fellowship Programme (SMURF) (*https://smart.mit.edu/fellowships/for-undergraduate-smurf*) allows undergraduates from MIT, NTU, and NUS to participate in an MIT faculty member's research projects at the SMART Centre and interact with students, researchers, and faculty members. Students selected spend a summer at the SMART Centre. Each undergraduate has an MIT faculty member as a mentor/supervisor and the undergraduate has access and use of the faculty's laboratory and equipment.

Students are paid a competitive stipend; those from MIT also have their travel and accommodation paid for. The aim of the SMART SMURF Programme is to expose undergraduate students to research experiences involving an internationally diverse group of investigators.

SMART Centre Postdoctoral Research Fellows Programme

The highly selective Postdoctoral Research Fellows Programme aims to attract exceptionally talented postdoctoral researchers to Singapore. These awards provide a unique opportunity for recent PhD graduates to participate in the SMART Centre in Singapore. The

awards, to be given annually, are open to those with less than three years postdoctoral experience.

In contrast to typical postdoctoral programmes where the postdoctoral works for a supervisor on a project defined by the supervisor, this programme allows the investigators to conduct research into questions of their own interest. The fellowship recipient is able to conduct research of his/her own choice in Singapore within, but not necessarily tied closely to, a current project in one of the existing SMART IRGs. In addition to a generous stipend each fellow also receives a research grant and travel funds.

For more information about SMART, contact the executive director, John C. Desforge, 617-452-3014.