

# SINGAPORE-MIT ALLIANCE

## Programme and Graduate Fellowship Briefing





Your choice for elite education

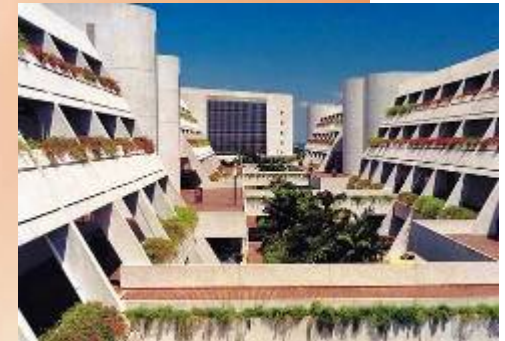
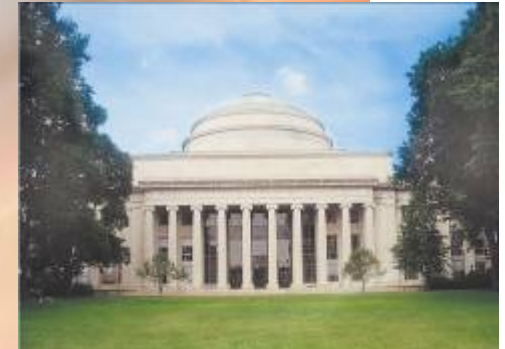
**Established: November 1998**

## **Alliance Universities:**

- National University of Singapore (NUS)
- Massachusetts Institute of Technology (MIT)
- Nanyang Technological University (NTU)

## **Aim:**

To create world-class graduate educational programmes and high-impact research initiatives.





# Why SMA?

## 1. A first rate full-time education

- ✓ interaction with MIT
- ✓ modern, innovative, specialised and relevant degrees
- ✓ experience of entrepreneurship culture at MIT

## 2. Latest technology in interactive distance education

- ✓ application sharing
- ✓ real-time and archived lectures
- ✓ web-based experiments

## 3. Top talent in the region

- ✓ network of alumni comprising the very best talent

## 4. Fast growing economy in Singapore

- ✓ well placed for jobs, business opportunities & careers in R&D



## Why SMA?

5. The two degrees are **complementary**; they strengthen the in-depth knowledge in a specific discipline.
6. The course is more rigorous. Fundamental and application-based, the education and training received better **equip** you to work with the industry.
7. SMA awards **Graduate Fellowships** to all who are admitted

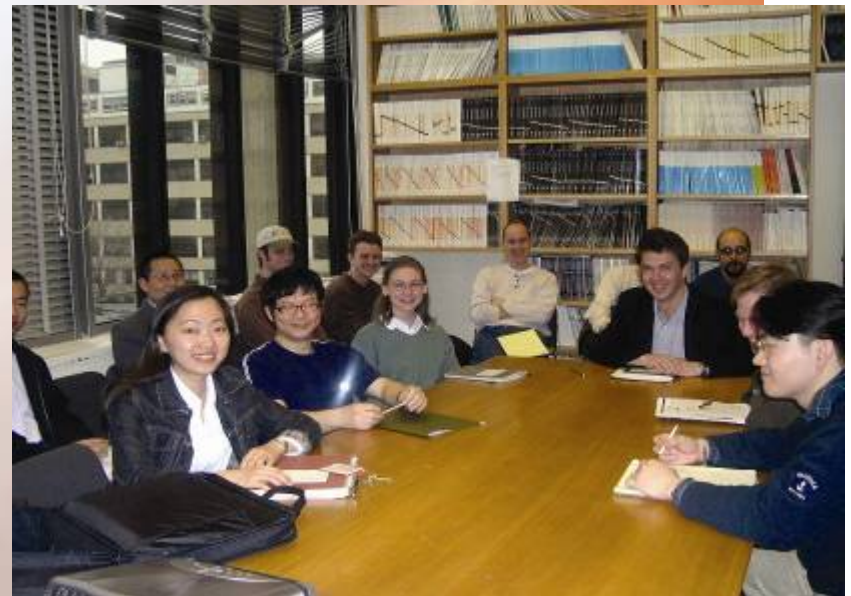


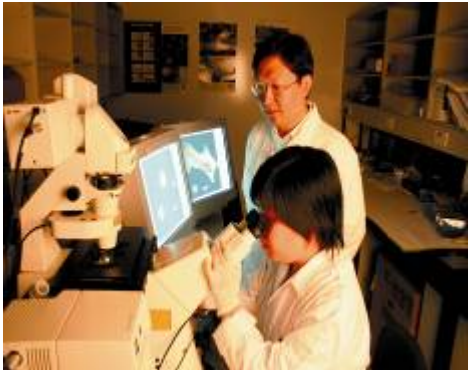
# Interactive Distance Education Technology





# Interaction with MIT





# World-Class Facilities



# Programmes

**The following programmes are offered:**

**Advanced Materials for  
Micro- and Nano-Systems (AMM&NS)**



**Computational Engineering (CE)**



**Manufacturing Systems and  
Technology (MST)**



**Computation and Systems  
Biology (CSB)**



**Chemical and Pharmaceutical  
Engineering (CPE)**





# Programme Co-Chairs

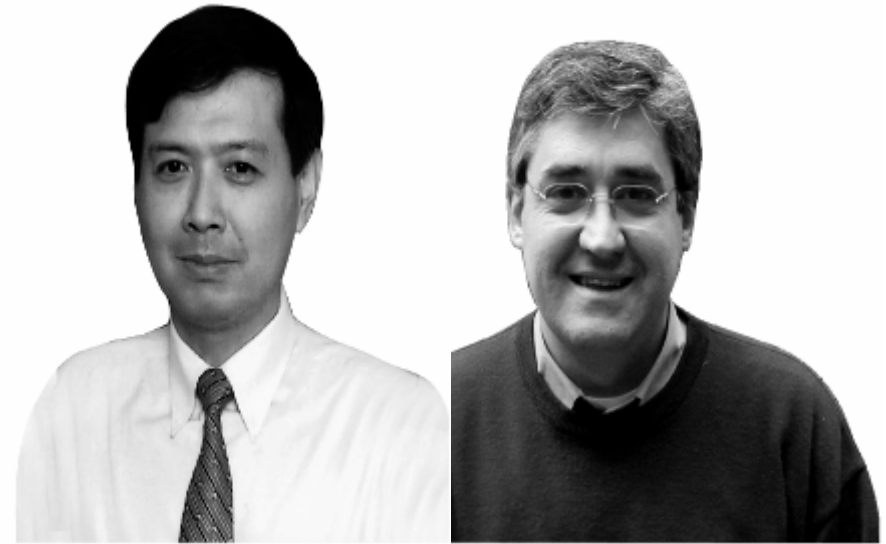
## AMM&NS



**Prof W K Choi**

**Prof C Thompson**

## CE



**Prof B C Khoo**

**Prof J Peraire**



# Programme Co-Chairs

## MST



**Prof C Y Yue**



**Prof D Hardt**

## CPE



**Prof R Rajagopalan**



**Prof B Trout**

## CSB



**Prof C L Hew**



**Prof P Matsudaira**



# Degrees and Candidature

	Dual Degrees		Single Degree
Degree Award Programme	MIT Masters + NUS/NTU Masters (Funding and candidature for 1½ years)	MIT Masters + NUS/NTU PhD (Funding for up to 5 years)	NUS/NTU PhD (Funding for up to 4 years)
Advanced Materials for Micro- and Nano-Systems (AMM&NS)	✓	✓	✓
Computational Engineering (CE)	✓	✓	✓
Manufacturing Systems & Technology (MST)	✓	✓	✓
Chemical and Pharmaceutical Engineering (CPE)	✓	✓	✓
Computation and Systems Biology (CSB)	-	-	✓



# Benefits

- ✓ Stipend of S\$1,500/S\$2,000 per month (likely to increase to S\$2000/S\$2500)
- ✓ Fully-subsidised tuition fee
- ✓ Bond-free SMA Graduate Fellowship
- ✓ Residency at MIT
- ✓ Additional allowance of up to US\$6,000 during residency at MIT
- ✓ Internship with industry (for Masters students)
- ✓ Top-up grant of S\$500 per month (for PhD students)
- ✓ Graduate Student Tutor/Teaching Assistant appointments (for PhD students)
- ✓ SMA certificate for direct PhD degree
- ✓ Invitation for Permanent Residence
- ✓ Individual cubicle with PC each
- ✓ Interaction and activities
- ✓ Job placement



**NUS**



**NTU**

# Student Atheneums



# Student Activities



Halloween in Boston

Bowling and BBQ event



Celebration of mid-Autumn Festival in Singapore



Night Cycling Trip



# Student Activities

Amazing Heritage Race



Killian Court, MIT



Amazing Friendly Race @ Sentosa



Graduation Luncheon





# Grand Finale



Commencement ■ Convocation





# Academic Calendar

- 1st semester : July – Aug (Summer)**
- 2nd semester : September – December (Fall)**
- 3rd semester : January – June (Spring)**



# Admission into SMA

- 1st or 2nd Class (Upper) Honours Degree or its equivalent
- Good GRE score
- Good TOEFL<sup>^</sup> score
- Strong recommendations
- Publications
- Participation in conferences
- Leadership qualities
- Co-curricular activities

*^Applicants with first degree from NUS or NTU are generally waived; however applicants may be required by MIT host departments to submit scores on a case-by-case basis*

## **Guidelines**

***GRE – 1200 for Verbal & Quantitative; 4.5 for Analytical***

***TOEFL – 580-600 (paper-based)/237-250 (computer-based)/minimum of 85 (internet-based)***

***GRE & TOEFL fees will be reimbursed if you are offered admission and enroll with SMA  
Reimbursement is based on proof of payment submitted to SMA***



# Admission into SMA

Programmes	Education Background	
<b>Advanced Materials for Micro- and Nano-Systems (AMM&amp;NS)</b>	<ul style="list-style-type: none"> <li>- Electrical Engineering</li> <li>- Materials Science</li> <li>- Mechanical Engineering</li> <li>- Chemical Engineering</li> </ul>	<ul style="list-style-type: none"> <li>- Electronics</li> <li>- Chemistry</li> <li>- Physics</li> </ul>
<b>Computational Engineering (CE)</b>	<ul style="list-style-type: none"> <li>- Mechanical Engineering</li> <li>- Electrical Engineering</li> <li>- Chemical Engineering</li> <li>- Physics</li> </ul>	<ul style="list-style-type: none"> <li>- Mathematics</li> <li>- Computer Science</li> <li>- Bioengineering</li> </ul>
<b>Manufacturing Systems &amp; Technology (MST)</b>	<ul style="list-style-type: none"> <li>- Mechanical Engineering</li> <li>- Electrical Engineering</li> <li>- Chemical Engineering</li> <li>- Industrial Engineering</li> <li>- Materials</li> <li>- Aeronautical Engineering</li> </ul>	<ul style="list-style-type: none"> <li>- Electronics</li> <li>- Civil Engineering</li> <li>- Mechatronics</li> <li>- Manufacturing</li> <li>- Physics</li> <li>- Bioengineering</li> </ul>
<b>Chemical and Pharmaceutical Engineering (CPE)</b>	<ul style="list-style-type: none"> <li>- Chemical Engineering</li> <li>- Pharmaceutical Engineering</li> </ul>	<ul style="list-style-type: none"> <li>- Bioengineering</li> </ul>
<b>Computation and Systems Biology (CSB)</b>	<ul style="list-style-type: none"> <li>- Biology</li> <li>- Mathematics</li> <li>- Physics</li> </ul>	<ul style="list-style-type: none"> <li>- Biochemistry</li> <li>- Computer Science</li> <li>- Engineering</li> </ul>



# Admission into SMA

## Registration for GRE or TOEFL tests in Singapore

To register directly for the GRE or TOEFL tests in Singapore, you can contact the following centre:

### Asia-Pacific Headquarters

Prometric B.V  
Suite 21A-15-1  
Faber Imperial Court  
Jalan Sultan Ismail  
20250 Kuala Lumpur  
Tel: +603 7628 3333

**Website:** <http://www.prometric.com/>

- \* **GRE Computer-based test** is available everyday except on weekends and public holidays. The test is scheduled two times a day at 9am and 1pm and takes 4 hours.
- \* **TOEFL Internet-based test** is usually done on a Friday in line with the US centre. Timing of the test is not fixed.
- \* Please note that the information is provided by Prometric and may be subject to changes. You may wish to call the centre for enquiries.



# Admission into SMA

## Timelines

**Intake : Every July**

**Submit Application : Between January and March**

**Offer Made : March**

**Accept Offer : April**

### **New**

Students who are interested to get a first-hand experience of SMA academic life are welcome to join the new July 2008 intake for a two-month study stint from July – August 2008.

Email [SMART@nus.edu.sg](mailto:SMART@nus.edu.sg) to register by 15<sup>th</sup> June 2008.



# Admission into MIT

- **Applicable ONLY to the Masters degrees awarded by MIT.**
- **Admission criteria and timelines follow that of the MIT department hosting the programme.**
- **Use MIT department's application materials to apply.**
- **Information is linked to the SMA website.**





# Hosting Institutions

<b>Programme</b>	<b>Singapore*</b>	<b>MIT</b>
<b>AMM&amp;NS</b>	<b>NUS</b>	<b>Department of Materials Science and Engineering</b>
<b>CE</b>	<b>NUS</b>	<b>Department for Computation Design and Optimization</b>
<b>MST</b>	<b>NTU</b>	<b>Department of Mechanical Engineering</b>
<b>CPE</b>	<b>NUS</b>	<b>Department of Chemical Engineering</b>
<b>CSB</b>	<b>NUS</b>	<b>*Computational and Systems Biology Initiative</b>

\* Apply using SMA application materials



# Residency at MIT

<b>Programme</b>	<b>Term at MIT (for Dual Degree Students)</b>
<b>AMM&amp;NS</b>	<b>Sept- Dec</b>
<b>CE</b>	<b>Sept- Aug</b>
<b>MST</b>	<b>Sept-Dec</b>
<b>CPE</b>	<b>Sept-Dec</b>

Residency at MIT for PhD students is generally after passing the PhD Qualifying Examinations

For AMM&NS, direct PhD students are resident at MIT together with the dual degree students



# Application Fees

## **Application Fee for MIT Admissions Package**

The application fee is currently US\$70.

## **Acceptance Fee for SMA**

The acceptance fee is S\$50 (excluding GST)

The above fees are to be paid by candidates and will be reimbursed once candidates are admitted and subsequently enrolled in one of the programmes.



# Achievements & Awards



*Chee Lip: back-facing*

- 1. Materials Research Society Graduate Award – Silver Award, Materials Research Society Spring Meeting, 2003, San Francisco, USA**
- 2. Best Conference Paper in Reliability Awards, IEEE International Symposium on the Physical and Failure Analysis on Integrated Circuits, 2002, Singapore**

Presented to: Gan Chee Lip, AMM&NS PhD, 1999/2000 intake



**Materials Research Society Graduate Student Award**

Presented to: Meng Ying, AMM&NS PhD, 2000/2001 intake

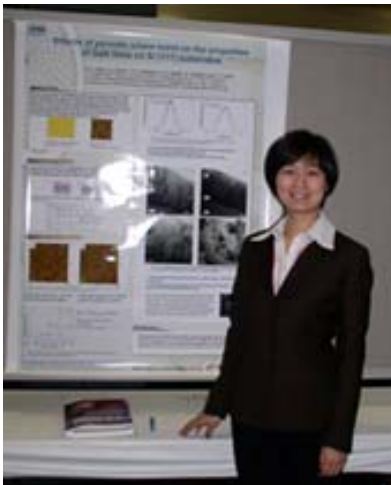


# Achievements & Awards



**2<sup>nd</sup> runner-up, first Young Persons' World Lecture Competition, Institute of Materials, Minerals and Mining (IOM3), 2005, London**

Presented to: Eric Kan Wing Hong, AMM&NS PhD, 2001/2002 intake



**Best Poster Award, Symposium J of International Conference on Materials for Advanced Technology, 2005**

Presented to: Zang Keyan, AMM&NS PhD, 2001/2002 intake



# Achievements & Awards



*Karthik: 3rd from left*

## **Honourable Mention, George E. Nicholson Student Paper Competition, INFORMS Annual Meeting, 2003, Atlanta, USA**

First time in 30 years a student from an Asian school was among the prize winners.

Presented to: Karthik Natarajan, HPCES PhD, 1999/2000 intake



*Melvyn: right hand side*

## **2<sup>nd</sup> place twice in the George E. Nicholson Student Paper Competition, INFORMS, 2002 and 2004, USA**

Only individual to have ever won the top awards (first or second place) more than once

Presented to: Melvyn Sim Soon Suan, HPCES SM, 1999/2000 intake



# Achievements & Awards



**Best Paper Award at the Annual Institute of Microelectronics (IME) Symposium on Microelectronics (SOM), 2005, Singapore**

Presented to: Chang Choon Wai, AMM&NS PhD, 2001/2002 intake

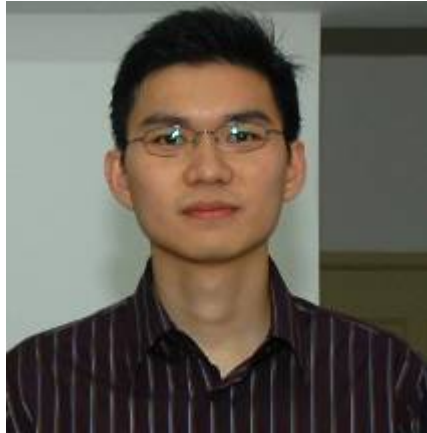


**Best Paper Award at the International Conference on Parallel and Distributed Computing Systems 2004, Cambridge**

Presented to: He Yuxiong, CS PhD, 2003/2004 intake



# Achievements & Awards



**Elsevier Outstanding Graduate Student Prize, 2007, Boston**

Presented to: Soo Haw Yun, AMM&NS DM, 2006/2007 intake



**Mimic Innovation Awards, 2007, USA**

Presented to: Davis Yohanes Arifin, MEBCS PhD, 2005/2006 intake





**SMA graduates are sought after by MNCs, universities, research institutes, defence laboratories and investment banks.**

**Some will chart their own career paths.**



# Positions in Universities



**Gan Chee Lip**

Assistant Professor, NTU

AY1999/2000 (AMM&NS)



**Meng Ying, Shirley**

Assistant Professor, University of Florida, USA

AY00/01 (AMM&NS)



# Positions in Universities



**Lin Shiwei**

Associate Professor, Hainan University, PRC

AY02/03 (AMM&NS)



**Wang Shengyong**

Research Assistant Professor, The State University of New York, Binghamton

AY00/01 (IMST)



# Positions in Universities



**Karthik Natarajan Balkrishnan**

Assistant Professor, NUS

AY1999/2000 (HPCES)



**Sim Soon Suan, Melvin**

Assistant Professor, NUS

AY99/00 (HPCES)



# Positions in Universities



**Jaya Kumar S Kandhasamy**

Assistant Professor, Sona College of Technology, India

AY00/01 (IMST)



**Michelle Cheong Lee Fong**

Assistant Professor, Singapore Management University

AY01/02 (IMST)



# Positions in Universities



**Teo Chee Chong**

Assistant Professor, NTU

AY00/01 (IMST)



**Beh Shiao Lin**

Lecturer, Multimedia University, Malaysia

AY99/00 (HPCES)



# Doing it on your own

**Dr Donny Soh AY03/04 (CS) – formed  
Tactica Labs a digital marketing company,  
clients include Ogilvy and Mather and  
ExxonMobil**

**Kek Sei Wee AY03/04 (IMST) – formed  
Achilles Consulting Group**

**Tan Jianfong AY03/04 (MEBCS) – Director  
of a start up company in Shanghai**



**Detailed information is available on the  
SMA website:**

**<http://www.sma.nus.edu.sg>**

**or**

**<http://web.sma.nus.edu.sg>**

For enquiries, please e-mail to:

**[smart@nus.edu.sg](mailto:smart@nus.edu.sg)**

Tel: (65) 6516 4787

Fax: (65) 6775 2920

**Thank you**