SINGAPORE-MIT ALLIANCE
Programme and Graduate Fellowship Briefing
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.
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
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
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

CSB

Prof C L Hew

Prof P Matsudaira
<table>
<thead>
<tr>
<th>Degree Award</th>
<th>Dual Degrees</th>
<th>Single Degree</th>
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<tbody>
<tr>
<td>Programme</td>
<td>MIT Masters + NUS/NTU Masters</td>
<td>MIT Masters + NUS/NTU PhD</td>
</tr>
<tr>
<td>Advanced Materials for Micro- and Nano-Systems</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(AMM&amp;NS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computational Engineering (CE)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Manufacturing Systems &amp; Technology (MST)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Chemical and Pharmaceutical Engineering (CPE)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Computation and Systems Biology (CSB)</td>
<td>-</td>
<td>-</td>
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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
Student Activities

Halloween in Boston

Bowling and BBQ event

Night Cycling Trip

Celebration of mid-Autumn Festival in Singapore
• High-level professional and research positions
• World-renowned and technologically advanced companies and Research Institutes & Centres
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^ 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

<table>
<thead>
<tr>
<th>Programmes</th>
<th>Education Background</th>
</tr>
</thead>
</table>
| Advanced Materials for Micro- and Nano-Systems (AMM&NS) | - Electrical Engineering  
- Materials Science  
- Mechanical Engineering  
- Chemical Engineering  
- Electronics  
- Chemistry  
- Physics |
| Computational Engineering (CE)                       | - Mechanical Engineering  
- Electrical Engineering  
- Chemical Engineering  
- Physics  
- Mathematics  
- Computer Science  
- Bioengineering |
| Manufacturing Systems & Technology (MST)              | - Mechanical Engineering  
- Electrical Engineering  
- Chemical Engineering  
- Industrial Engineering  
- Materials  
- Aeronautical Engineering  
- Electronics  
- Civil Engineering  
- Mechatronics  
- Manufacturing  
- Physics  
- Bioengineering |
| Chemical and Pharmaceutical Engineering (CPE)         | - Chemical Engineering  
- Pharmaceutical Engineering  
- Bioengineering |
| Computation and Systems Biology (CSB)                 | - Biology  
- Mathematics  
- Physics  
- Biochemistry  
- Computer Science  
- Engineering |
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/](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.
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 to register by 15th 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.
<table>
<thead>
<tr>
<th>Programme</th>
<th>Singapore*</th>
<th>MIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMM&amp;NS</td>
<td>NUS</td>
<td>Department of Materials Science and Engineering</td>
</tr>
<tr>
<td>CE</td>
<td>NUS</td>
<td>Department for Computation Design and Optimization</td>
</tr>
<tr>
<td>MST</td>
<td>NTU</td>
<td>Department of Mechanical Engineering</td>
</tr>
<tr>
<td>CPE</td>
<td>NUS</td>
<td>Department of Chemical Engineering</td>
</tr>
<tr>
<td>CSB</td>
<td>NUS</td>
<td>*Computational and Systems Biology Initiative</td>
</tr>
</tbody>
</table>

* Apply using SMA application materials
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 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

1. Materials Research Society Graduate Award – Silver Award, Materials Research Society Spring Meeting, 2003, San Francisco, USA


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

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Materials Research Society Graduate Student Award

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

2nd 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

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

2nd 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
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)
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)
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
General Information

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

Tel: (65) 6516 4787
Fax: (65) 6775 2920

Thank you