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)

**Vision:**
To be a premier and unparalleled interactive distance educational and research enterprise that is internationally recognised and that attracts the very best engineering and life sciences graduate students and researchers from Singapore and all over Asia.
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
World-Class Facilities
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)
## Degrees and Candidature

<table>
<thead>
<tr>
<th>Degree Award</th>
<th>Dual Degrees</th>
<th>Single Degree</th>
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</thead>
<tbody>
<tr>
<td>Advanced Materials for Micro- and Nano-Systems (AMM&amp;NS)</td>
<td>MIT Masters + NUS/NTU Masters (1½yrs)</td>
<td>MIT Masters + NUS/NTU PhD (Up to 5yrs)</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
- Fully-subsidised tuition fee
- Bond-free SMA Graduate Fellowship
- Internship with industry
- Residency at MIT
- Additional allowance of up to US$6,000 during residency at MIT
- Graduate Student Tutor/Teaching Assistant appointments for Ph.D. students
- Top-up grant of S$500 per month for Ph.D. students
- SMA certificate for direct PhD degree
- Invitation for Permanent Residence
- Individual cubicle with PC each
- Interaction and activities
- Job placement
Students at bowling and BBQ event

Halloween in Boston

Students on a Night Cycling Trip

Students celebrating Mid Autumn Festival in Singapore
Student Activities

Amazing Heritage Race

Students in front of Killian Court, MIT

Amazing Friendly Race @ Sentosa

Career Talk cum Farewell Lunch
• High-level professional and research positions
• World-renowned and technologically advanced companies and Research Institutes & Centres
Programme Co-Chairs

MST

Prof C Y Yue
Prof D Hardt

CPE

Prof R Rajagopalan
Prof Bernhardt Trout
Programme Co-Chairs

CSB

Prof C L Hew
Prof P Matsudaira
1st semester : July – Aug
2nd semester : September – December
3rd semester : January – June
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

*GRE requirement is waived for the MST intake of 2008/2009. It will be replaced by personal interviews.
^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 – min. score of 580 (paper-based test) or 237 (computer-based test) or 92 (internet-based test)

GRE & TOEFL fees will be reimbursed if you are offered admission and register with SMA. Reimbursement is based on proof of payment submitted to SMA.
<table>
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<tr>
<th>Programmes</th>
<th>Eligibility</th>
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</thead>
<tbody>
<tr>
<td>Advanced Materials for Micro- and Nano-Systems (AMM&amp;NS)</td>
<td>Bachelor’s degree in: &lt;br&gt;- Electrical Engineering &lt;br&gt;- Materials Science &lt;br&gt;- Mechanical Engineering &lt;br&gt;- Chemical Engineering</td>
</tr>
<tr>
<td>Computational Engineering (CE)</td>
<td>Bachelor’s degree in: &lt;br&gt;- Mechanical Engineering &lt;br&gt;- Electrical Engineering &lt;br&gt;- Chemical Engineering &lt;br&gt;- Physics</td>
</tr>
<tr>
<td>Manufacturing Systems &amp; Technology (MST)</td>
<td>Bachelor’s degree in: &lt;br&gt;- Mechanical Engineering &lt;br&gt;- Electrical Engineering &lt;br&gt;- Chemical Engineering &lt;br&gt;- Industrial Engineering &lt;br&gt;- Materials &lt;br&gt;- Aeronautical Engineering &lt;br&gt;- Electronics &lt;br&gt;- Civil Engineering &lt;br&gt;- Mechatronics &lt;br&gt;- Manufacturing &lt;br&gt;- Physics &lt;br&gt;- Bioengineering</td>
</tr>
<tr>
<td>Chemical and Pharmaceutical Engineering (CPE)</td>
<td>Bachelor’s degree in: &lt;br&gt;- Chemical Engineering &lt;br&gt;- Pharmaceutical Engineering &lt;br&gt;- Bioengineering</td>
</tr>
<tr>
<td>Computation and Systems Biology (CSB)</td>
<td>Bachelor’s degree in: &lt;br&gt;- Biology &lt;br&gt;- Mathematics &lt;br&gt;- Physics &lt;br&gt;- Biochemistry &lt;br&gt;- Computer Science &lt;br&gt;- Engineering</td>
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Admission into SMA

For more information on the SMA programmes and admission requirements, please visit

http://web.mit.edu/sma/students/programmes/index.htm

Application Dateline: Between January and March

Application status will be available after 31 Mar 2008.
• 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>
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</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>
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</table>

* Apply using SMA application materials
<table>
<thead>
<tr>
<th>Programme</th>
<th>Term at MIT (for Dual Degree Students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMM&amp;NS</td>
<td>Sep 08 - Dec 08</td>
</tr>
<tr>
<td>CE</td>
<td>Sep 08 - Aug 09</td>
</tr>
<tr>
<td>MST</td>
<td>Sep 08 - Dec 08</td>
</tr>
<tr>
<td>CPE</td>
<td>Sep 08 - Dec 08</td>
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Residency at MIT for Ph.D. students is generally after passing the Ph.D. Qualifying Examinations

For AMM&NS, direct Ph.D. 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 payable by candidates and will be reimbursed if candidate is 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 Ph.D., 1999/2000 intake

Materials Research Society Graduate Student Award

   Presented to: Meng Ying, AMM&NS Ph.D., 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 Ph.D., 2001/2002 intake

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

Presented to: Zang Keyan, AMM&NS Ph.D., 2001/2002 intake
Melvyn: right hand side

Karthik: 3rd from left

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 S.M., 1999/2000 intake

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 Ph.D., 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 Ph.D., 2001/2002 intake

Best Paper Award at the International Conference on Parallel and Distributed Computing Systems 2004, Cambridge
Presented to: He Yuxiong, CS Ph.D., 2003/2004 intake
Elsevier Outstanding Graduate Student Prize, 2007, Boston
Presented to: Soo Haw Yun, AMM&NS D.M., 2006/2007 intake
General Information

Detailed information on application will be 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