

Record Number Receives Master's Degree at TUM Asia's 9th Graduation Ceremony

Three Singaporean students sponsored by Singapore Workforce Development Agency under the Professional Conversion Programme among top award winners

Singapore, 20 July 2012 – German Institute of Science and Technology-TUM Asia (TUM Asia) today held its ninth graduation ceremony at the NUS University Town Plaza Auditorium. The Guest of Honour officiating at the graduation ceremony was Mr Jens Janik, Deputy Head of Mission, German Embassy Singapore.

This year, a total of 73 graduates from five programmes received their Master's degree. The five programmes are:

- Industrial Chemistry
- Integrated Circuit Design
- Microelectronics
- Aerospace Engineering
- Transport and Logistics

This is the largest graduating class since TUM Asia started offering its first Masters programme 10 years ago. In addition to Singaporeans and Singapore PRs, the graduating students hailed from six countries including India, China and Germany.

“Over the last decade, TUM Asia has established itself as the tertiary institution of choice for advanced engineering and science education in the tradition of excellence in education and research of Technische Universität München (TUM), our parent university,” said Dr Markus Wächter, Managing Director of TUM Asia. “From one Master's Programme in 2002, we are now offering five Master's Programmes. In addition, we are also offering two Bachelors programmes in collaboration with Singapore Institute of Technology.”

“The increase in the number of programmes offered reflects greater awareness and increase in demand for our kind of education, distinguished by the quality of our faculty and the synthesis of German scientific and technical excellence with practical-oriented curriculum developed closely with our industry partners,” added Dr Wächter. “Increasingly, more people in Singapore and the region realise that a German quality engineering education in a globalised city like Singapore, offers tremendous value for their personal and career development.”

The graduating class included 25 local students who were sponsored by the Singapore Workforce Development Agency (WDA) under the Professional Conversion Programme (PCP). Around 70% of these graduates had already secured employment in their respective industries. The PCP helps to groom local talents for the manufacturing industry in Singapore by providing upgrading opportunities in the

areas of advanced engineering and science. Upon completion of the PCP, the graduates can expect their job roles to be expanded, which will aid their career progression. Their specialised, industry-relevant competencies may also facilitate their entry into another industry or qualify them for managerial positions in their current industry.

This year, three of the PCP Singaporean trainees have won the best Master Thesis / Dissertation awards for their respective courses. They are:

- Ms Chian Siew Fung, Angela Industrial Chemistry
- MrHuang Jiayan Integrated Circuit Design
- Mr Gu Junqing Aerospace Engineering

Ms Julia Ng, Senior Director of the Manufacturing and Construction Division at WDA, said: “WDA congratulates Ms Chian, Mr Huang and Mr Gu for their outstanding achievements in winning the best Master Thesis / Dissertation awards. Their accolades reflect the value of WDA’s Professional Conversion Programme (PCP), as well as the success of our longstanding collaboration with TUM Asia to upgrade the skills and expertise of Singaporean Professionals, Managers and Executives (PMEs) in the manufacturing sector. Looking ahead, WDA will continue to explore opportunities for additional government-academia-industry partnerships that will strengthen the capability and competitiveness of Singapore’s manufacturing workforce.”

The feedback from the graduates on the programmes that they pursued was positive and enlightening. The majority of them expressed their appreciation for the multi-dimensional and practice-oriented nature of their courses of study. They benefited from an excellent faculty with expertise gleaned from years of industry experience and a regime of intensive classroom learning complemented by hands-on experience gained during internship with leading companies whose businesses are aligned to their field of studies.

“I was previously working as an engineer with a printed circuit board manufacturing company. I took the PCP Master of Science in Aerospace Engineering at TUM Asia because I wanted to work in the aerospace industry. With theoretical knowledge gained from the course and practical experience gleaned from the internship, I was able to secure a position as an Aircraft Structure Engineer with ST Aerospace Services Co Pte Ltd,” said Mr Gu Junqing, who won the Best Master Thesis for the programme in Aerospace Engineering.

“I have gained knowledge on engineering modules taught by German lecturers,” said Ms Angela Chian, a research assistant from the National University of Singapore (NUS) who won the Best Master Thesis award for the programme in Industrial Chemistry. “Through the programme, I was exposed to the multinational faculty at TUM Asia who conveyed knowledge from various perspectives that enriched the whole learning environment. I have also gained knowledge not only in Chemistry but in finance and production planning, which expanded the scope of my knowledge.”

Angela was previously a chemistry teacher in a secondary school. Motivated by her interest in research and development (R&D), she decided to make a mid-career switch and joined NUS as a Research Assistant. “The WDA PCP in the Master of

Science in Industrial Chemistry not only equipped me with the theoretical fundamentals of chemistry, but also smoothen my career transition from teaching to chemistry R&D," she added.

"The programme leads students to the fantastic world of integrated circuits," said Mr Huang Jiayan, who won the Best Master Thesis award for the programme in Integrated Circuit Design. "I am thankful to WDA and TUM for creating an upgrading pathway that offers graduates excellent career opportunities in the semiconductor industry."

Mr Huang was an electrical engineer with a multinational corporation before taking up the Master of Science in Integrated Circuit Design programme at TUM Asia. "The intensive course work, coupled with a formal internship programme and Master thesis within the PCP, gave me invaluable hands-on experience and knowledge on the real-life industrial applications of integrated circuit design. I believe that the PCP has boosted my employability and job readiness, and am confident of obtaining a job advancement and higher remuneration after my graduation," he added.

"The availability of talents with the relevant skills and expertise is a critical competitive factor in the aerospace industry," said Koh Chin Seng, Vice President, Human Resources of ST Aerospace. "We are happy to work alongside TUM Asia to provide internship opportunity for their students, who represent a potential pool of talents we can tap on. After an eight-month internship programme with ST Aerospace, Gu Junqing has gained both practical knowledge on aerospace repair and maintenance, and first-hand understanding of the business landscape. When we eventually offered him a permanent position, he was able to assimilate easily into our organisation culture."

"We have worked with TUM Asia for several years and we appreciate the value of its programmes in preparing scholars who aspire for a career in research," said Prof Loh Kian Ping, Head of NUS Department of Chemistry. "We believe that Chian Siew Fung Angela has gained tremendous knowledge in the chemistry domain and practical experience in R&D, making her transition from a school teacher to a researcher a seamless one."

Following the success of the PCP programme, WDA and TUM Asia conceptualised the Manufacturing Step Scholarship (MS²) for employers to groom suitable Singaporean employees for succession planning through the Master's programmes. Beside the Master's programmes, WDA and TUM Asia also collaborate to offer short seminars to upgrade and up skill the PMEs in the manufacturing industry.

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About TUM Asia

TUM Asia first opened its doors in 2002, the Singapore campus being the first ever German academic venture abroad. The Technische Universität München (TUM) enjoys the prestige of being the top university in Germany, with a total of 13 Nobel Laureates graduates to date. TUM Asia serves as the Asian subsidiary to its parent university, and its long standing reputation has led to partnerships with two of Asia's top universities, namely National University of Singapore (NUS) and Nanyang Technological University (NTU).

Since 2002, TUM Asia has been running joint Master's Programmes conferred by TUM, with NTU and NUS. The Master of Science in Industrial Chemistry is the longest running programme, with 10 successful intakes and 9 graduate batches to date. Through the years, programmes such as Integrated Circuit Design, Microelectronics, Aerospace Engineering, Transport and Logistics have been added to the list of offered programmes. TUM Asia also collaborates with Singapore Institute of Technology (SIT), offering 2 Bachelor programmes - Bachelor of Science in Electrical Engineering and Information Technology; and Bachelor of Science in Chemical Engineering. This 2012 will mark TUM Asia's 10th year in Singapore and there are plans in the works to launch more Master's and Bachelor programmes that continue to be industry-focused and in tune with the needs of the global economy.

About Singapore Workforce Development Agency (WDA)

The Singapore Workforce Development Agency (WDA) enhances the competitiveness of our workforce by encouraging workers to learn for life and advance with skills. In today's economy, most jobs require not just knowledge, but also skills. WDA collaborates with employers, industry associations, the Union and training organisations, to develop and strengthen the Continuing Education and Training system that is skills-based, open and accessible, as a mainstream pathway for all workers - young and older, from rank and file to professionals and executives - to upgrade and advance in their careers and lives.

For more information, please visit <http://www.wda.gov.sg>

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Professional Conversion Programme (PCP) Factsheet

To provide more assistance to the Professionals, Managerials, Executives and Technicians (PMETs), the Singapore Workforce Development Agency (WDA) launched the Professional Conversion Programme (PCP). This scheme is targeted at existing PMETs in the same industry and for trainees who would like to enter the industry.

The PCP Programmes are conducted full time and take about 18 – 24 months to complete. Each programme is carefully structured to provide trainees with academic knowledge and practical skills. There will be 10 – 16 months of coursework followed by 2 months of industry internship and 6 months to complete their Master thesis. Trainees will also be required to take cross-disciplinary modules to mould them into all rounded professional with vertical as well as horizontal skills.

The Programmes include the following:

1. Master of Science in Integrated Circuit Design (NTU /TUM)

The Master of Science programme in Integrated Circuit Design is jointly offered by NTU and TUM to educate the next generation of engineers and leaders for the semiconductor industry.

2. Master of Science in Microelectronics (NTU / TUM)

The Master of Science in Microelectronics is a highly specialized programme jointly offered by NTU and TUM. It aims to educate next generation engineers to work in silicon wafer fabrication industries.

3. Master of Science in Aerospace Engineering (NTU / TUM)

The Joint Master of Science Programme in Aerospace Engineering provides graduates with an in-depth knowledge in the field of aerospace engineering focusing in the areas of aeronautical and space design and research.

4. Master of Science in Industrial Chemistry (NUS /TUM)

The Masters of Science in Industrial Chemistry produce graduates to be specialist engineers for the pharmaceutical, as well as the fine and specialty chemical industries.

Under the PCP programmes, trainees are offered a structural training programme in world class Universities. They were given course fee subsidy and monthly training stipend for the entire duration of the Programme. Please refer to the following for Nett fee payable:

	Master of Science (Integrated Circuit Design)	Master of Science (Micro-electronics)	Master of Science (Aerospace Engineering)	Master of Science (Industrial Chemistry)
Nett Fee	*S\$3210	*S\$3210	*S\$3745	*S\$4815

**Please note that Fees are inclusive of 7% GST*

** Terms and Conditions do apply*

To be Eligible for this funding, applicants have to fulfill the following conditions:

- Singapore Citizen or Permanent Residents of Singapore.
- Above 21 years old
- At least 6 months working experience
- An applicant must have completed at least a Bachelor Degree or an European/German FH Diploma or its equivalent in areas of Science or Engineering from a university with recognised standing
- If the medium of instruction in their previous Programme medium is not in English, trainees will have to meet either of the criteria below:
 - ◆ TOEFL: Recent score with a minimum of 580 for Paper based test or 80 for internet based test
 - ◆ IELTS: At least 6.5
- Able to fulfil the graduation criteria with a GPA of 2.5
- Willing to work in Singapore for a period equal to the duration of the programme

About TUM Asia

German Institute of Science and Technology – TUM Asia (TUM Asia) opens its doors In Feb 2002 as the subsidiary of Technische Universität München (TUM) in Singapore and the first German academic venture abroad. Through its groundbreaking collaboration with Singapore's two leading universities, TUM, Germany has pioneered globalization of German universities by creating TUM Asia in partnership with National University of Singapore (NUS) and Nanyang Technological University (NTU).

Since 2002, TUM Asia has been running joint Master Programmes between TUM and our partner universities NTU and NUS. Our Master of Science in Industrial Chemistry is the longest running programme with 7 successful intakes and 5 graduate batches. Through the years, programmes such as Integrated Circuit Design, Microelectronics, Aerospace Engineering, Transport and Logistics and Biomedical Imaging have been added to our list. TUM Asia also collaborates with Singapore Institute of Technology, providing 2 Bachelor programmes i.e Bachelor of Science in Electrical Engineering and Information Technology and Bachelor of Science in Chemical Engineering. 2012 marks TUM Asia's 10th year in Singapore and there will be plans to launch more Master and Bachelor programmes that are industry focused and in tune with the needs of the global economy.

MANUFACTURING STEP SCHOLARSHIP (MS²) FACTSHEET

A. About Manufacturing Step Scholarship (MS²)

The Manufacturing Step Scholarship is an initiative of Singapore Workforce Development Agency (WDA) that aims to build a pipeline of advanced manufacturing managers to meet the long-term requirements of the manufacturing industry. The German Institute of Science and Technology – TUM Asia (TUM Asia) is the programme partner in this initiative for the training, upgrading and placement of workers in the manufacturing industry by offering 5 Master programmes with Technische Universität München (TUM) leading to the Master of Science certification.

i. Eligibility

Only Singapore Citizens are eligible for the Manufacturing Step Scholarship and participating scholars and employees will have to meet the following requirements:

- a) Scholars must be nominated and sponsored by their employers through their internal talent development programme or equivalent scheme
- b) Employers must be well established and must have a sizable operation in Singapore or are considering new investments or projects in Singapore
- c) Employers shall provide a career progression plan for the scholars before and after the training
- d) Employers shall bond the scholars for a duration equivalent to their training duration ranging from 18 to 24 months

ii. Grant Component

The Manufacturing Step Scholarship targets to train a total of 15 scholars and shall comprise of the following Grants components:

	WDA	Collaborative Company
Course Fee Grant	Up to 80% of course fees (excluding GST) capped at SGD 50,000	The remaining 20% of the course fees
Monthly Training Stipend	Up to 50% of the monthly stipends capped at SGD 2,000 per scholar per month	The remaining 50% to make up the monthly training stipend
One Time Grant	Up to SGD 2,000 per scholar to defray miscellaneous expenses such as Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT),	N.A.

	psychometric test, application fees and book allowance	
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iii. Selection Process

Candidates will have to meet all the academic and admission requirements of the respective Master programme. With the clearance of all the administrative academic requirements, an interview with the TUM Asia/ WDA scholarship board will be arranged to ascertain the candidate's eligibility to receive the scholarship. Candidates will also be required to undergo a further psychometric test administered by TUM Asia to confirm their suitability for the programme before they are awarded the scholarship.

B. List of Master Programmes (Covered under MS²) Offered by TUM Asia

Programme Title	University	Programme Description	Duration
Master of Science in Integrated Circuit Design	TUM & NTU	The MSc in Integrated Circuit Design equips students with the academic proficiency and hands-on knowledge required in the design, development and manufacture of integrated circuit or integrated electronic products. This Master's degree is jointly awarded Technische Universität München (TUM) and Nanyang Technological University (NTU).	18 months
Master of Science in Microelectronics	TUM & NTU	The MSc in Microelectronics is a highly specialised programme to train engineers to work in silicon wafer fabrication industries, engage with the related research institutions. This Master's degree is jointly awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).	18 months
Master of Science in Aerospace Engineering	TUM & NTU	The MSc in Aerospace Engineering is a programme that caters to highly qualified engineers to meet the ever-increasing demand from a growing aerospace sector in Singapore and the world. This Master's degree is jointly	24 months

		awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).	
Master of Science in Industrial Chemistry	TUM & NUS	The MSc in Industrial Chemistry aims to groom future leaders in selected areas of technology. It is an enabling postgraduate programme for specialist engineers for the pharmaceutical, as well as the fine and specialty chemical industries. This Master's degree is jointly awarded by Technische Universität München (TUM) and National University of Singapore (NUS).	18 months
Master of Science in Transport and Logistics	TUM	The MSc in Transport and Logistics will provide graduates with the necessary knowledge and skill to employ a diverse range of technologies that leverage on state of the art computer and communications technologies to implement sophisticated and far reaching solutions to transportation challenges that characterise modern economy. This Master's degree is awarded by Technische Universität München (TUM).	18 months

Course Fee

<u>Programme Title</u>	<u>Nett Fee Payable by Company</u>
Master of Science in Integrated Circuit Design	SGD 8,000*
Master of Science in Microelectronics	SGD 7,600*
Master of Science in Industrial Chemistry	SGD 10,600*
Master of Science in Transport and Logistics	SGD 7,600*
Master of Science in Aerospace Engineering	SGD 8,800*

Note:

* Fees mentioned above are exclusive of 7% GST

* Funding rates are according to Manufacturing Step Scholarship (MS²)

C. Additional Qualifications required

- Above 21 years old
- An applicant must have completed at least a Bachelor Degree or an European/German FH Diploma or its equivalent in areas of Science or Engineering from a university with recognised standing.
- If English is not the medium of instruction in for the candidate's bachelor programme then they will have to submit either one of the following:
 - TOEFL: Recent score with a minimum of 580 for Paper based test or 80 for internet based test
 - IELTS: At least 6.5
- Able to fulfil the graduation criteria with a GPA of 2.5
- Willing to work in Singapore for a period equal to the duration of the programme

D. Programme Commencement

All TUM Asia Master programmes commence August every year. Individuals/Companies who are interested in the PCP programmes should email (gary.ong@gist.edu.sg) requesting for the application form under this scholarship scheme. **Online application is not accepted.**

E. About TUM Asia

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