

Erase your scars and look younger and fresher with the 3DEEP™ treatment

BESTE STATES OF THE PROPERTY O

Tales of woe from those suffering from acne scarring and unsightly pigmentation are a dime a dozen, but success stories of overcoming these common skin problems are few and far between.

Thankfully, there's now a quick and painless way to erase your skin problems. Chrysalis' 3DEEP™ treatment removes damaged surface skin cells and, at the same time, treats the deeper skin layer, or the dermis, to reveal smoother skin.

Here's how it works: The treatment uses radio frequency energy to heat up the targeted tissue under your skin without destroying good tissue or causing skin surface damage. This jolts collagen production into action, triggering the healing of acne scars and even smoothing out fine lines in the process.

As this painless treatment is non-invasive, there will be minimal downtime. You can head back to class or work - or even out for dinner - right after your session. Now that's something to smile about!

The one-hour 3DEEP[™] rejuvenating treatment costs \$428 and is available at Chrysalis Spa. For more information, visit www.chrysalis.com.sg.







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HEY! GO GREEN

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PHOTO MARK TEO

COVER PARAS BAJAJ
TALENTS Medicine

SHAMMAINE CHONG Accountancy & Business LIYANA MAHADI Mathematical Sciences

BENEDICT NAGUIAT Mechanical Engineering NICODEMUS NG Accountancy & Business



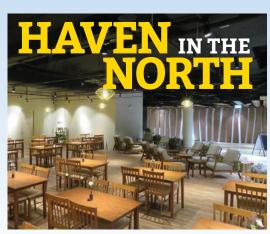
NTU Fest returned this year, on home ground, with a huge public carnival at The Wave, NTU's new sports hall. The student-led event, spearheaded by the NTU Students' Union, celebrated the opening of the new academic year with lots of food, party games and the chance to get up close and personal with NTU innovations such as EDGAR, the robot host that won hearts at this year's National Day Parade.

New students broke the ice through interactive games such as archery tag and laser tag, while alumni, faculty and staff joined them on a walkathon past NTU landmarks. Revellers cooled one another down with a water-pistol battle on a stretch of the route spanning Nanyang Lake to The Hive.

As the sun set, the soiree continued with dance performances and a showcase of homegrown talents such as crowd favourite Sons of Ben. The party reached fever pitch when celebrity twins Hayley and Jayley Woo as well as former Project Superstar winner, Kelly Poon, lit up the stage with their combined star power.







NTU's newly upgraded alumni house in one-north, off
North Buona Vista Road, provides a relaxing escape,
complementing the city alumni house at Marina Square.
Refurbished inside out, it now features a fully-equipped
gym and wellness centre, complete with sauna and steam
rooms, and a garden spa overlooking the pool. If you
need a bite or an after-hours drink, head to the fusion
restaurant and bar on the third floor.





Excuse me, are you a CEO?

Media-savvy CEOs are more likely to draw a higher salary than their publicityshy counterparts, according to research from the Nanvang Business School. About 4,000 CEOs and over



100,000 news articles from 1997 to 2009 were reviewed in this study, which found that the more frequently a CEO is profiled in the media, the higher his pay - about US\$210,239 more on average. Now, who says talk is cheap?

HEALING HANDS

NTU's dual-campus medical school, officially opened in August by Deputy Prime Minister Teo Chee Hean, boasts a fully operational suite of spanking new facilities. The Lee

Kong Chian School of Medicine, jointly set up by NTU and Imperial College

London, comprises the Experimental Medicine Building on NTU's main campus and the new Clinical Sciences Building in Novena.

The curriculum, which has been endorsed and commended by Imperial's quality assurance panel, stands out with its focus on team-based learning in realistic clinical settings and early exposure to real patients.

The aim is to nurture well-rounded doctors who put their patients at the heart of all they do.

With the induction of 120 new medical students, its largest cohort ever, the school now has students enrolled in all five years of its medical course, ready to keep the next generation of Singaporeans in the pink of health.

CONGRATULATIONS...

ROBO-MAID Just what we need - a robotic arm that can pick up and stow ordinary household items efficiently. A team from the School of Mechanical & **Aerospace Engineering** created just that and swept the competition in the finals of the Amazon Robotics Challenge in Nagoya, landing the first and second

spot in these categories. They came in third overall

US\$50,000 in prize money.

and picked up a cool







AND THE BIGGEST WINNER IS... NTU!

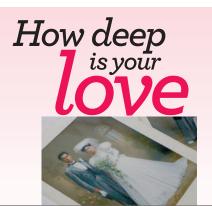
The spotlight shone on NTU for the third year running at the annual National Youth Film Awards. It was the biggest winner, sweeping 16 out of 23 awards. Art, Design & Media students picked up the prestigious Best Picture Award for Changi, a short film that puts immigration in the limelight. Buang Bayi: Behind the Baby Hatch, a documentary about abandoned babies in Malaysia, produced by Communication undergrads, took home three awards.

GRIN AND BEAR IT

Poles Apart, a stop-motion animated film produced by School of Art, Design & Media alumna Low Ser En, won the McLaren Award for Best British Animation at this year's Edinburgh

International Film Festival. The humorous short film is a commentary on climate change, told through the odd relationship between a polar bear and a grizzly, voiced by Oscar nominee Helena Bonham Carter and actor Joseph May.





How far would you go in search of a lost one? "I want to go home" was the last text message Onagawa resident Yasuo Takamatsu received from his wife before he lost her to the tsunami that struck Japan in 2011. Since then, he has been diving into the sea every week to search for her. Inspired by his devotion, NTU alumnus Wesley Aroozoo, an Art, Design & Media graduate, has immortalised his story in a novel, whose title is taken from Mr Takamatsu's wife's final message, as well as a documentary, which makes its premiere in October at the Busan International Film Festival.

STAND TO WIN

a copy of I Want To Go Home with the HEY! Shake app. Open the app and shake your phone whenever you see the HEY! Shake logo on a TV screen around campus — you could get lucky!



We put the *sportlight* on NTU students and alumni who pulled in 27 of the 188 medals won by Team Singapore at the 29th Southeast Asian Games "PETER YEO



Winning means more, especially when it is Singapore's first gold in 28 years. It was great to share the podium with my teammates and hear our national anthem playing in the background.

GREGORY FOO, SPORT SCIENCE & MANAGEMENT

SQUASH (GOLD)

I've represented Singapore on many occasions, but this is my first SEA Games. It feels great to be able to play for something bigger than myself, which also translates into a lot of pressure to perform well. Thankfully, I took it in my stride and played the best squash of the season. I was in disbelief when I received my medal, yet so proud. My teammates and I have been training really hard for the past six months, and seeing it pay off is a feeling like no other. PANG KA HOE, BUSINESS





Singapore at the 4x200m freestyle relay race means a lot to me. Singapore has a strong tradition of doing well in relays, and I'm glad we delivered. This medal is especially significant for me as we've won it together as a team for three consecutive SEA Games. Danny Yeo, Joseph Schooling, Quah Zheng Wen and I have built a strong bond over the years and to be able to score a gold hat-trick is something I'll definitely treasure when I retire from the sport.

PANG SHENG JUN, SPORT SCIENCE & MANAGEMENT (SECOND FROM RIGHT)







SQUASH (2 GOLDS)

It was a mix of joy and relief when we took the jumbo doubles gold. There was a lot of pressure going in as we were the favourite. I was extremely happy to pick up my first gold. For the men's team event, Malaysia was the hot pick to win, so it was a huge surprise for us. It's fantastic knowing we're the champs of Southeast Asia - a feeling that will stay with us forever. Winning two golds was beyond my expectations and I'm thrilled!

SAMUEL KANG, EDUCATION (ALUMNUS) (LEFT IN RIGHT PICTURE)

MEN'S WATER POLO

The gold medal was a redemption for me, as I was not selected to represent Singapore at the 2015 SEA Games. The key to winning is not to think about winning. I treated each match in the competition no differently than any training session or competitive game. After my self-funded training stint in Serbia with one of their top teams, I made it a point to attend every training session when I returned, which made me fitter than the rest of the team! **CHOW JING LUN, MATERIALS SCIENCE &** FNGINFFRING

SWIMMING (2 GOLDS)

It is truly an honour to defend my title for five straight SEA Games, and each one in record time. It's definitely no easy feat, especially for a sprint event where everything is about execution and being perfect. I'm just thankful that I'm able to bring it back for the country again.

AMANDA LIM, SPORT SCIENCE & MANAGEMENT





▲ CRICKET (GOLD)

It feels amazing to contribute to Singapore's cricketing history. Very few people know about Singapore's cricket team. Our climb from 52 to 23 in the world ranking within six years is nothing short of spectacular. There is no better feeling than wearing our jerseys with the national flag and singing Majulah Singapura - especially when you're standing on the dias with the gold medal. Goosebumps.

ANANTHA KRISHNA, MATERIALS **SCIENCE & ENGINEERING** (ALUMNUS)



YOU DID US

NTU athletes' medal haul: 8 golds, 10 silvers and 9 bronzes

ARCHERY Ang Han Teng, Pang Toh Jin (alumnus) – Men's Team Compound (Silver)

ATHLETICS Dipna Lim-Prasad (alumna) – Women's 400m (Silver, National Record), Women's 400m Hurdles (Silver)

BASKETBALL Lyon Chia, Russel Low, Wong Wei Long (alumnus) – Men's Team (Bronze)

GRICKET Deepak Sarika, Navin Param, Prasheen Param, Anantha Krishna (alumnus) – Men's 50-overs (Silver); Navin Param, Prasheen Param, Anantha Krishna (alumnus) - Men's Team T20 (Gold)

FIELD HOCKEY Laura Tan (alumna) – Women's Team (Bronze)

Golf Gregory Foo – Men's Team-Match Play (Gold)

INDOOR HOCKEY Timothy Goh, Ishwarpal Singh Grewal – Men's Team (Bronze)

NETBALL Shina Teo, Nurul Baizura (alumna) - Team (Silver)

PENCAK SILAT Nurul Shafiqah – Women's Tanding Class B (Bronze)

RUGBY Matthias Chia, Sidney Kumar (alumnus) – Men's Team (Silver); Ong Pei Yi (alumna), Arra Heloise (alumna) -Women's Team (Silver)

AILING Nicole Lim - Women's Windsurfing RS:One (Bronze)

SOUASH Chua Man Tong - Men's Doubles (Bronze); Pang Ka Hoe -Men's Team (Gold), Men's Doubles (Silver), Mixed Doubles (Joint-Bronze); Samuel Kang (alumnus) - Men's Team (Gold), Men's Jumbo Doubles (Gold), Men's Singles (Bronze)

VIMMING Amanda Lim Women's 50m Freestyle (Gold, Games Record), 4x100m Freestyle Relay (Gold, Games and National Record); **Pang Sheng Jun** – Men's 4x200m Freestyle Relay (Gold), Men's 200m Individual Medley (Silver), Men's 400m Individual Medley (Bronze)

WATER POLO Chow Jing Lun – Men's Water Polo (Gold); Eunice Fu (alumna), Wu Zhekang (alumna) – Women's Water Polo (Silver)

Source: NTU Sports & Recreation Centre







Location, location, location

B eing nestled next to NTU's northern green belt has its advantages. Even if you're not an avid bird-watcher or a nature lover, the serene surroundings will surely put you at ease. And it doesn't matter if your room isn't forest-facing. You can still get front-row seats to the antics of the animal kingdom from airconditioned reading rooms and cool study nooks, too.

Getting around and out of campus is easy as well. Whether you're heading for lectures at the North Spine or going for a dip in the Sports & Recreation Centre pool, the Campus Loop Red and Blue buses put you minutes away from your destination. Catching a movie at Jurong Point? Bus service 199, right on your doorstep, takes you to the mall.

"With two campus bus lines that pass by the hall, it's easy for me to get to classes or pop back to my room for little breaks between lectures and tutorials," says accountancy & business freshman Shammaine Chong, who moved into Tamarind Hall in August.

There's no shortage of dining options too.

Sometimes, you just want to spend a quiet evening with Netflix instead of going to the nearest mall for dinner and jostling with the crowds. An eight-stall food court will be opening soon. Or you can also take a short stroll to canteens at the neighbouring Halls 11 and 14 to quell your hunger pangs.

More than meets the eye

The layout of the new halls reflects NTU's move towards interdisciplinary study and collaboration. A fine illustration of this approach is the Living Street, a pedestrian space connecting the three halls, which doubles as an activity hub.

With barbecue pits and colourful social spaces aplenty, there's loads of opportunities for gatherings, at any time of the day or night. Study pavilions and discussion pods add even more areas where students can get creative together and inspire one another in an open environment.



Who knows, springing from these serendipitous encounters or casual conversations among friends from different disciplines could be the

next big idea or business venture.

Paras Bajaj, a first-year medicine student, agrees: "I can see students having a vibrant hall life here. The variety of amenities and recreational areas provides great opportunities for residents to meet and grow as a community."



More spacious than ever

Pollowing in the vein of the three halls that opened last year – Banyan, Binjai and Tanjong – the three new 13-storey undergraduate residences are named after tropical trees.

But one difference is the type of rooms available. Apart from single and double rooms, including plus-size single rooms that are the first of their kind in NTU, you can also opt for single rooms with attached bathrooms.

The addition of Saraca, Tamarind and Meranti Halls brings the number of residential halls on campus to 24, which means more than 14,000 undergraduates can live on campus. NTU has the distinction of being the first university in Singapore to guarantee incoming freshmen a living space on campus for the first two years.

With classes like dancing and cooking becoming a feature of residential life in NTU (see page 12), students will also be learning alongside their friends, getting the best of both worlds.

Designed with style

\top n the reading rooms, couches 👢 and chairs in fun shapes and happy colours create a space that's conducive to creativity. When you feel that you're drowning in equations or case studies, plonk yourself down on nugget-shaped seats by the windows to recharge.



Outside these rooms, forest-facing study decks offer a soothing view to switch things up. Perfect for small-group discussions, they are also convenient spots to mingle or enjoy a moment of solitude with a cuppa.

"Studying alone need not be mundane, especially if you are tired of being cooped up in your hall room. The reading rooms are an excellent change of scenery and put you in the mood for studying," says engineering freshman Benedict Naguiat.

History and

"Many students wish to live in our halls and experience community community life and learning beyond the curriculum. Here they can do so in style!"

- PROF KWOK KIAN WOON, ASSOCIATE PROVOST (STUDENT LIFE)

Facilities at your doorstep

host of recreational facilities in the halls makes it easy to break out of your shell.

Says first-year accountancy & business student Nicodemus Ng: "You can get to the action quickly. I like that there are so many facilities near one another, such as the gym, music room, canteen and study nooks."

Pump some iron or sweat it out at the 182 sqm gymnasium that is only open to residents. Jam with your band in the music room. Or practise your moves in front of the floor-to-ceiling mirrors in the spacious dance studio that can be partitioned into smaller spaces.







Green initiatives

ா he new Nanyang Crescent halls are designed with environmental sustainability in mind and are the latest buildings on campus to get top marks for being "green".

For example, the blocks were constructed with eco-friendly cement made of reused industrial by-products. Energy-savers include a motion sensor LED system and solar-powered water heaters. Specially designed louvres enhance ventilation in the rooms and coated windows reflect heat and UV rays, so you don't feel the need to turn on the air-conditioner.



Feel on top of the world

he blocks are connected by scenic walkways and corridors with planters. Get some fresh air at the rooftop garden. From this vantage point, a verdant canopy of trees stretches as far as the eye can see, and you can enjoy panoramic views of the lush campus.

"The rooftop garden is lovely - I love chilling here!" says definitely a good place to relax with my hall mates."





HALL SET TO GO CLICK ON OVER TO NTUSG YOUTUBE OF THE LATEST NANYANG CRESCENT HALLS, AND SEE WHY RESIDENTS ENJOY A HOME, CLASSROOM, PLAYGROUND AND NATURE PARK ROLLED INTO ONE.



Peter Yeo checks in on the new Residential Education (RE) programme that is being rolled out gradually on campus

ne of the main attractions of living in a hall of residence is the convenience of being five minutes away from class. Now, with the Residential Education programme, the class could even be held in your block at a hall of residence. Think courses on culinary appreciation, gardening, art, financial planning and healthy living.

"I like that the course is right at my doorstep," says Piragalathan Loganathan, a third-year Chemistry & Biological Chemistry major.
The 24-year-old took a class on art appreciation at Tanjong Hall where he picked up different painting styles, from watercolour to oil to Chinese ink painting. He also studied the fundamentals of photography, including how to

use exposure settings, interpret histograms and choose focal length in lenses to create better images.

"The skilled instructors delivered a lesson plan that was easy to understand and absorb. I'd recommend that all hall residents take advantage of the free classes to get new skills and knowledge not taught on a regular day in school," he says.

THE GRADUATE OF THE FUTURE

The NTU Residential Education programme, or RE@NTU, was launched at Crescent and Pioneer Halls in 2014. The objective is to get students to look beyond the curriculum of their chosen disciplines, says Assoc Prof Valerie Du Toit-Low, the Deputy Associate Provost in charge.

If you're hoping to score extra credits, these aren't the courses for you. If anything, they are designed not to be primarily academic or programme-specific, she explains. Many of the courses have a focus on developing practical skills for the future, like how to invest and budget wisely.

Says Assoc Prof Du Toit-Low: "What we want to do is instil generic skills in students. We hope that students abbreviation "RE", such as theatRE@Tanjong Hall, REfresh@Tanjong Hall (a fully-equipped kitchen for culinary classes), cREate@Binjai Hall (a work space with tools), and REconnect@Hall 10 (a meeting and networking space).

Assoc Prof Quek Hiok Chai, a
Senior Faculty-in-Residence, oversees
the programme at the cluster that
includes Banyan, Binjai and Tanjong
Halls. He observes: "The graduate
of the millennium has to not only
be learned, but must also be able to
learn, unlearn and relearn, which is
crucial for critical thinking. This is all
the more important since technology
is becoming obsolete almost as fast
as it's minted. By helping students
widen their interests and general
knowledge, we can help them connect
the dots and learn to learn better."

#LEARNINGGOALS

Driving the success of Residential Education are the faculty-inresidence and graduate students, known as residential mentors, of the various halls.

"Owned by students and run by students" – that is the secret ingredient that will give the programme longevity, says Assoc Prof Quek. "The ideas for the classes may come from the faculty-inresidence, but the residential mentors are the ones who organise them."

Courses are usually held in the late afternoon or evening, and may last as long as 12 weeks or as short as a few hours. Often, experts are invited to share their knowledge. For example, the Director of Project Sales and Marketing from the Huttons Real Estate Group, Ken Low, talked about the "huge transformation" in the Singapore property market at a session attended by the residents of several halls.

First-time residential mentor Atish Kizhakeyil, who lives in Hall 4, will be spearheading a dance

"THE GRADUATE OF THE MILLENNIUM HAS TO NOT ONLY BE LEARNED, BUT MUST ALSO BE ABLE TO LEARN, UNLEARN AND RELEARN, WHICH IS CRUCIAL FOR CRITICAL THINKING." - ASSOC PROF QUEK HIOK CHAI

who take up the classes will gain new knowledge, personal skills and positive attitudes and values. These encompass the five NTU Graduate attributes, what we call the 5Cs of an NTU education, namely competence, creativity, communication, character and civic-mindedness."

At Crescent and Pioneer Halls, classes take place in dedicated spaces with names like The Garage, The Studio, The Kitchen and The GiveBack. But any spot is potentially a learning space. At Halls 9, 10 and 11, for example, hall residents tend to edible gardens, growing herbs and spices such as butterfly pea and ginger, as well as fruits and vegetables such as papaya and sweet potatoes. And stargazing from hall rooftops has led to some students picking up astrophotography.

By next August, all undergraduate halls on campus will get their own Residential Education programmes.

New learning spaces will also be given names that incorporate the



BLOOM AND GROOM Urban farming cultivates patience and an appreciation of sustainable food sources.

(Below) FRUITS OF OUR LABOUR Assoc Prof Valerie Du Toit-Low wants to plant seeds of personal development through hands-on activities.



FEATURE

camp at the end of the year. "It will be a good platform for residents to interact and have fun. Over three days, we'll celebrate the diversity of NTU through different dance genres such as Indian dance and salsa."

The PhD student, who researches skin cancer at the Lee Kong Chian School of Medicine, adds: "This also fosters racial and cultural integration and lets students experience residential life in a meaningful way."

NOT JUST BOOK SMART

More than just enriching hall life, NTU's after-school classes create an ecosystem of possibilities with lessons that boost IQ, EQ and CQ.

"By bringing people of all talents, backgrounds and nationalities together in learning activities, their ideas and thoughts can't help but rub off on one another," says Assoc Prof Du Toit-Low.

Dr Sze Chun Chau, the Senior Faculty-in-Residence of Pioneer Hall, who also has the job of ensuring knowledge is shared through experiential learning as NTU's Director of Student Experiential Learning, says: "We want residential learning to be closely associated with the students' daily living in a domestic setting. Since the classes include events and open houses, we can bring the whole hall community together."

Joel Lim, a graduate student at the School of Mechanical & Aerospace Engineering and a residential mentor at Tanjong Hall, adds: "What better way to pick up new skills outside of class than by attending one right where you live? And you also get to mingle with students across all levels and schools."

The entire scheme is, as much as possible, a self-sustaining one, says Assoc Prof Du Toit-Low. For example, the edible gardens could provide raw ingredients for culinary or baking courses at another hall.

Are you ready to open your door to the future? Here are some courses that are right around your corner. To find out more about the programme and to sign up for classes, visit www.ntu.edu.sg/re.





▲ ASTROPHOTOGRAPHY

WHAT Amateur astronomers get a rare opportunity to glimpse the craters of the moon and planets such as Saturn and Jupiter, and photograph them with their mobile phones through sophisticated equipment.

FOR WHOM Residents keen on stargazing and photography. Students learn in groups under the guidance of trained mentors.

POTTERY

WHAT You will not only learn how to work with clay but also understand and appreciate the thoughts and narratives behind this art form.

FOR WHOM Those who like to work with their hands and create works of art.

FINANCIAL WELLBEING

WHAT Adopt best practices and good habits in money and debt management, and study the rules of investment using myriad financial instruments.
FOR WHOM Residents who want to learn the tools of financial planning and assess their financial health and risk appetite.



▲ CEROC

WHAT Pick up Ceroc, a partner-dance that includes moves from salsa, rock and roll, swing and other dance genres. FOR WHOM If you love music and dance, this is the fitness class for you. Its allure is that it is easy to pick up. You learn a few basic moves and "freestyle" according to the music. The instructors guarantee you'll be dancing by the end of the first class.



► APPRECIATION OF ASEAN CULTURE & HALAL FOOD

WHAT You'll learn about various cooking techniques and the regional influences on Southeast Asian cuisines in this culinary and cultural journey.

FOR WHOM Food lovers who are also interested in the diverse cultures, customs, folklore and languages in Southeast Asia.

SPARTAN

WHAT Master the art of staying fit, balancing exercise and nutrition, and keeping healthy habits.

FOR WHOM Residents who want to be healthy and stay in shape.

NIGHT LIFE Students on the Astrophotography programme learn about astronomy, the inner workings of sophisticated telescopes, and photographing planets.





SINGAPORE reach MODEL PARLIAMENT 2018

Singapore Model Parliament is a platform for our students to come together to discuss and debate national issues, and interact with our nation's leaders to gain insight into policy making.

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PRESIDENTS

NTU President Prof Bertil
Andersson meets his successor,
Prof Subra Suresh, and discovers
that they have many things in
common. The stars are aligned for
NTU's continued success, they say,
half in jest to HEY!



travelling halfway around the world to come and work here.

SUBRA SURESH:

Yes, I have heard how you left the fine wines of Strasbourg where you were the CEO of the European Research Foundation to be NTU's first Provost in 2007 and its President in 2011.

BA: Oh yes, and you had a similar job at the National Science Foundation (NSF) in the US, managing all of America's great research, under the auspices of former President Barack Obama.

55: I was fortunate to do my national service as head of NSF.

BA: So we are both used to being far from home. In fact, I "ran away" from

home at 21 to Umeå University, which was the furthest university within Sweden from my home, to pursue my undergraduate degree.

55: And I was 21 when
I borrowed money
for a one-way ticket
and left Tamil Nadu in
India for the US with less
than \$100 in my pocket.
I went to do my master's
degree in mechanical engineering at
Iowa State University.

BA: We should have been born in Singapore, where parents long for their kids to go to university. I think young Singaporeans don't know how lucky they are! I grew up in post-war Sweden. My dad felt I should work on the family farm or in a factory. Fortunately, my grandmother, the matriarch who ran the

farm, saw my potential. Since I went against my parent's wishes, I knew I had to succeed – on my own.

55: For me, it was my mother who gave me a "head-start" in academia. As a toddler, I must have been more than a handful and after my sister was born,



my mother took me to the local public school and asked if I could join the first grade. I was four years old. I entered the Indian Institute of Technology (IIT) Madras at 16 to pursue an engineering degree. The full scholarship I got from both IIT and Iowa State really helped me, without which I would not have been able to receive my undergraduate and postgraduate degrees.

That's why, as a university leader, I'm always thinking about establishing scholarships and programmes that open up opportunities for talented women, minorities and other under-represented groups, as well as those who are first in their families to go to college.
At Carnegie Mellon, I established an initiative called the Presidential Scholarships and Fellowships
Programme, which provided financial support for talented students. We were able to attract the largest female first-year enrolment in the university's history in computer science, more than twice the national average for that field for American universities.

BA: Diversity is good, especially for a university, which thrives in an environment of multiple perspectives and talents. Talking about diversity, I can see that there are three women who are positive influences in your life. I have three in mine too... actually, four, including my granddaughter, Elsie, who says she wants to be a scientist when she grows up. My wife, Susie, is an accomplished research scientist in plant biochemistry and has served as an associate professor at the School of Biological Sciences.

55: Oh yes, I have two daughters, just like you. Nina is a medical doctor specialising in paediatrics and Meera is a global health professional at a non-profit organisation in the US.

My wife, Mary, worked in clinical research nursing and public health administration. She served for five years as the Director of Public Health for the town in Massachusetts where we lived for 17 years. She is passionate about student life and wellbeing, and wellness throughout the entire university campus community.

BA: Tell Mary and Nina that when
I was a student, I used to work
as a lab technician in hospitals
in the summer. I had a big job –
cardiopulmonary resuscitation. I also
read electrocardiogram reports and was
good enough for the hospitals to offer
me a job. I have always been interested
in medicine, and planning the birth of
NTU's joint medical school with Imperial
College London, and seeing it grow up
well, has been a high point in my career.

SS: My connections to medicine also

started about 15 years ago. Although I started as an engineer, I gradually moved to multidisciplinary research work at the crossroads of engineering, sciences and medicine. In recent years, I've had increasingly closer contact with medical researchers around the world. Of course, I first came to Singapore in 1983, and have been involved with various organisations and groups here ever since. So I have always felt at home here.

BA: Do you remember that we met in Singapore more than 10 years ago?

55: I think that was in 2006 when you came to Singapore as a member of the National Research Foundation's (NRF) scientific advisory board. I was then helping the Massachusetts Institute of Technology (MIT) to set up the SMART Centre, the first centre in

(FACE TO FACE)

CREATE. It's still MIT's only research centre outside the US, and also MIT's largest international research programme. We took a picture with Dr Tony Tan when he was NRF Chairman.

BA: I found the photo recently. It's quite fascinating that five of us flanking Dr Tan in the photo have become university presidents!

55: Actually, we could have met much earlier in life when I was invited to give a lecture at Linköping University, where you were the President, and also when I was a visiting professor and honorary degree recipient at the Royal Institute of Technology (KTH), where you are now on the Board.

BA: How does Mary feel about moving to Singapore?

55: I'm happy to return to Asia, and Mary is looking forward to the challenge of immersion in a culture new to her. We have always been impressed by Singapore and its citizens' determination to succeed.

BA: You will love living on campus, just as much as I have. It's not only a showcase of sustainable living but also a beautiful one too – even if some Singaporeans think it's too far in the "west"! I think the beauty of the campus makes it well worth the commute from any part of this "big" country.

55: I have driven from California to the east coast of the US three times by myself. So the distance between the NTU campus and the city centre, to me, is very short.

I have to commend the entire
NTU community for having done an
excellent job of taking this university
so far globally. Over the past two
decades, there have been impressive
developments in the physical
infrastructure of this campus. The Hive
and The Wave are fantastic structures
that have both form and substance.



HISTORIC PICTURE FROM 2006 (from left) Prof Thomas Magnanti, now President of Singapore University of Technology and Design; Prof Rafael Reif, now MIT President; NTU President-Designate Prof Subra Suresh; Dr Tony Tan, then Chairman of NRF; Prof Bertil Andersson, now President of NTU; Dr Lim Pin, then the former Vice Chancellor of the National University of Singapore (NUS); and incoming NUS President Prof Tan Eng Chye

And to have 57 Green Mark buildings (or LEED-certified equivalents) on the NTU campus is an amazing feat that would make any American or European university president go green with envy.

BA: Nature gave me my first proper job, because I'm a plant biochemist. So I try to make things bloom where I'm planted.

55: Thank you for passing the baton of this wonderful university to me. So tell me, what's one skill you think the NTU President must have?

BA: Big ears. It's a big campus (200 hectares) with a large community of 33,000 students, 5,300 faculty and researchers, more than 3,000 administrative staff and more than 222,000 alumni from over 150 countries. Including all the stakeholders that we have, it's not difficult to see why the job of a university president is

more complex than that of a CEO of a multinational organisation.

\$5: I fully agree. I've actually started my walking and listening tours, so I can hear the diverse views of the different groups of people. That was also what I did in my previous leadership roles.

BA: Managing a university is both a science and an art. Some even say these are skills that you are born with.

SS: Speaking of birthdays, I just heard that we share the same birthday – 30 May – although you beat me to it by a few years!

BA: Now everyone knows that you were destined to take over the hot seat. The stars are aligned for NTU's continued success.

\$5: Thank you, and you can be sure that NTU will continue to be the young university admired the world over.

BA: And I will always be a proud ambassador of NTU and Singapore from whichever part of the globe I'm in.

(FEATURE)

"We met several times during

the many events you attended in NTU. At this year's Chinese

New Year celebration organised

by the NTU Chinese Society, I took a photo with you. You

are such a nice and friendly president, and I appreciate everything you've done for NTU. Thank you and all the best for your retirement!"

CHOO WAN QI (LEFT), YEAR 3, CHINESE

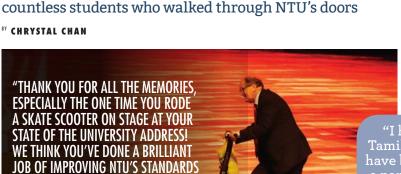
In his ten years at NTU, first as Provost and then as President, Prof Bertil Andersson has touched the lives of countless students who walked through NTU's doors

IN THE WORLD. GOOD LUCK FOR YOUR

CO-LEADERS OF PROJECT L.O.V.E CAO WEI AND

FUTURE ENDEAVOURS."

PRANESH DHANABALAN



"I hope that through the NTU

Tamil Literary Society events, you have been able to better appreciate a part of our multi-ethnic society! Thank you for your constant support and kind words. One thing's for sure, no one else can slay the dance floor like you, Sir!

NTU TAMIL LITERARY SOCIETY PRESIDENT ARUN KRISHNAN, YEAR 4, ENGLISH

"I'll never forget your coming-ofage story. How you grew up on a farm, delivered newspapers from nine until you were 17, and eventually came to NTU. Thank you for inspiring us with your story of tenacity and passion! You make us believe in our dreams. JOVY SIM, YEAR 3, **COMMUNICATION STUDIES**

"I HOPE YOU HAVE ENJOYED YOUR TIME IN SINGAPORE. I WILL ALWAYS REMEMBER HOW YOU RECITED YOUR UNIVERSITY'S CHEER IN SWEDISH AT THE FRESHMEN WELCOME CEREMONY!"

EMMA TAN, YEAR 2, ART, DESIGN & MEDIA

"I will never forget your life lessons about Professor iPad. More importantly, I will never forget your enthusiastic run to the podium every time we welcomed you up on stage. Every speech you gave was filled with sincerity and bursting with enthusiasm, and brought smiles to our faces. I will miss having you grace our White Coat Ceremonies, official openings and various school events. Thank you for not only leading us, but also being a father to all of us."

GOH XIN RONG, YEAR 2, MEDICINE

"Thank you for leading the charge to make NTU one

of the top young universities, and also one of the most beautiful campuses internationally. Be sure to come back for wefies and OOTDs with the students!"

LIM ZI SONG, YEAR 4, COMMUNICATION STUDIES



"You have brought NTU to new heights and your passion for education is priceless. It has been enjoyable working with you over the past year to help NTU students feel more engaged with university life."

NTU STUDENTS' UNION PRESIDENT GAN RUI YUN

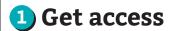
"Ironically, I am writing this all the way from Sweden, your home, where I am doing an exchange programme. I will really miss the e-greetings you always send during festive seasons, sharing how you, as a Swede, celebrate local festivities here in Singapore with your loved ones. Take care and thanks for making NTU a great place!"

HAW JIEKANG, YEAR 3, MATERIALS SCIENCE & ENGINEERING

Systematric

Derek Rodriguez finds out why you shouldn't leave your room without your new matriculation card that comes with NETS FlashPay





OUTTA THE WAY!



ARGHHH!!! LOCKED! BUT I NEED TO GET TO MY EXPERIMENT NOW!





2 Pay for stuff







3 Go places







Sarange Sarang

A viral video by Korean makeup brand Laneige is receiving major buzz online for its refreshing take on a campus love story. Chrystal Chan speaks to the executive producer of the video, NTU humanities graduate Jemimah Wei, to find out what fuelled her inspiration for it

says the alumna, who studied English literature at NTU and went straight to a master's programme in creative writing, which she completed this year.

FANTASY VS REALITY

"I had a clear message in mind when I was writing this story, and I've always

seen storytelling as an amazing way to send a soft message across," adds the full-time blogger and host for Clicknetwork.tv.

Keen to debunk the usual stereotypes, she explains: "Here's a female protagonist who's pretty, smart, ambitious, liked by guys and girls, and able to realise that though she

loves Korean dramas, she's not going to fall into the arms of the first $oppa^*$ she meets."

The buzz surrounding the video revolves around its sassy female lead, who isn't your typical fairskinned Korean beauty. Trishna Goklani, a Singaporean of Indian descent, plays Isla Anthony, the object of Min Jun's affection. The response to the video has been overwhelming, with 336,000 views and 1,070 shares and counting.

CAMPUS SUPERSTAR

There's also another star of the film, aside from the handsome male lead flown in from South Korea. The five-minute short film was filmed entirely on the grounds of NTU, and within a day – 18 hours to be exact.

*Meaning "older brother", it is a term Korean girls typically use when showing affection for an o<mark>lder guy.</mark>



You might have seen the Laneige video that's making its rounds on Facebook. The short film for the Korean makeup brand portrays a Korean exchange student, Park Min Jun, who falls in love at first sight with his Singaporean schoolmate and the various clichéd ways in which he tries to win her heart.

For all its spot-on K-drama tropes, the writer and executive producer of this video, Jemimah Wei, is not a fan of Korean dramas. "To get inspiration for this short film, I had to watch a bunch of Korean clips to get a sense of their style of humour and romance. The final storyline is actually the fourth version. It was a lot more complicated initially, but I had to scale it down for pragmatic reasons,"

Jemimah explains her choice of the campus locations featured in the video: "Have you seen them? They're gorgeous! The Hive, in particular, is really iconic so I knew I wanted it in the background as a kind of Easter egg for viewers from NTU."

Having taught a class at
The Hive as part of her masters'
programme, NTU's learning hub is
close to the 24-year-old's heart. While
there were plans to shoot another
scene on the top floor of The Hive,
these were scrapped in the end as it
wasn't very well lit and "too pretty
to believably be in a university for
overseas viewers".

Buoyed by the positive response, Jemimah, who began working with Laneige after they noticed her growing social media presence, says: "Trish and I came up with this idea together and pitched it to Laneige. This is my first film experience, but





ike most American boys around his age, 11-yearold Jeffrey Williams was starstruck as he watched Neil Armstrong and Buzz Aldrin set foot on the moon in 1969. "I remember the moon race and the landing. I was a kid then," recalls the National Aeronautics and Space

Administration (NASA) commander, who's now 59. Growing up on a small dairy farm in Wisconsin, he soon developed a fascination with the worlds of science, aviation, technology and engineering passions that followed him into adulthood. ROCKET MAN

The spacefarer visited NTU in August and regaled students with tales of his space odysseys. He made his maiden flight in 2000, working to get

the International Space Station (ISS) ready for its first long-staying space crew.

Throughout the NASA astronaut's 21-year career, he would visit the space station four times - his last mission was in 2016. Few can say they've photographed the planet from the world's only orbiting laboratory on the ISS, where hundreds of experiments are conducted every year across the spectrum of science disciplines.

Why build a lab in space? "Without gravity, space creates a unique environment that isolates other aspects of phenomena you're studying," he explains. But space research does carry a unique set of risks. One side effect of weightlessness is muscle

"To counter that, we would either run on a treadmill or cycle on a stationary bike every day," he says. "We also do weight training with resistance provided from vacuum cylinders. Otherwise, we'd be a vegetable or a wet noodle by the time we returned to Earth!"

In all, Williams has spent a total of 534 days in space. He held the record for the longest cumulative time an American astronaut has spent in space, until this April, when it was surpassed by a colleague, Peggy Whitson.

FLY ME TO THE MOON

How does one reach for the stars?

Obviously, besides an interest in the fields of aviation and space exploration, "you have to get the necessary education, be it engineering or science, to be an astronaut," advises Williams. "Work hard and apply yourself well at institutions such as NTU. Get an advanced degree. Most non-military astronauts have PhDs in science or engineering."

A degree in applied science and engineering and postgraduate qualifications in aeronautical engineering might stand you in good stead, as in his case. His career was launched when he joined West Point, the American military academy. It was the key to getting a foot in the cockpit door, since training in the Army Aviation unit led to him becoming a test pilot. But the commander cautions that the chance of becoming an astronaut is only "slightly better than winning the lottery" - he got into the astronaut programme on his sixth try. In NASA's last astronaut selection, only 12 out of 18,000 applicants made the cut. "None of us know why we were selected, and many

talented people have applied. I don't take the opportunity I've been given for granted," he says.

UNRAVELLING THE COSMOS

There are other ways to be involved in space programmes, even if you can't be an astronaut, says Williams. "Universities provide the resources and education to develop technologies, and find applications for them, such as deploying satellites to perform different functions," he adds.

A stellar example of a university with stratospheric ambitions is NTU, which has put seven satellites in space – via Indian and Russian rockets – and is the first university in Singapore to develop a satellite programme for undergraduates. NTU also has one of the most advanced satellite research facilities in Asia.

More innovation is required to conquer the next frontier - other planets in the galaxy. The astronaut elaborates: "Technology, such as propulsion, needs to mature to take us to Mars. It's one thing to take a rocket to Earth's orbit and another to have a propulsion system that is efficient enough, weight-wise, to get to Mars and back. Another space for innovation is in life-support systems. There is still a lot of work to do, to improve reliability and performance."

RIDE OF A LIFETIME

For all his space travels, he has not set foot on the moon. The grandfather of three seems resigned to the fact that he will not be able to realise his dream of a lunar jaunt. Nonetheless, he is thankful for what has been an astronomical ride. "I've had



"WITHOUT GRAVITY, SPACE CREATES A UNIQUE ENVIRONMENT THAT ISOLATES OTHER ASPECTS OF PHENOMENA YOU'RE STUDYING."



so many chances to do so many great things, and to live in space four times. I have no right to regret anything."

So what we want to know is: Do aliens exist? The space veteran declares: "Those are fairy tales. As far as I know, we're alone out there."



SPACE FOR MORE WHAT ELSE CAN YOU DO IN WITH ASTRONAUT JEFFREY WILLIAMS IN THIS VIDEO ON NTUSG YOUTUBE AND FACEBOOK

EXTRA!



What was the inspiration for your project?

Our professors from the Making and Tinkering elective gave a list of words like "solar cells", "walking on water" and "knots", which we could pick from to build our project on. "Space balloon" caught our eye! Noorul, Ee Wei, Yuk Hang and I decided to launch a high-altitude experiment.

Why space balloons in the age of satellite missions?

It's worth exploring a cheaper way of sending scientific experiments into space that also allows quick data retrieval.

What were some must-haves for your project?

A launch site, helium (the gas used to fill party balloons), a welllaid plan and, of course, a sense of adventure.

Is any open field a potential launch pad?

Theoretically, yes. But safety concerns took us from Singapore to Perth, Australia.

So you got to travel to pursue your dream of space travel.

Yes, the trip was fully funded by the

And we have lift-off! NTU students shoot for space with balloons that go higher than an airplane's cruising altitude. B Kanesh tells Siddiqua Ovais about the mission that took flight over the Australian outback

School of Physical & Mathematical Sciences, which hosts the elective.

We heard your balloons flew higher than an airplane!

At 30km from the earth's surface, all three of our balloon systems entered the region known as "near space". Space is another 70km away but what we achieved is very rare. We're the first from NTU to send balloons this high up.

Who flew the balloons?

They go where the wind blows – literally. Atmospheric conditions, together with the material of the

balloons, the amount of helium inside them, and their weight, affect how high or far they go.

And you could track them even at that height.

We "communicated" with the devices in their payloads, the "cargo". Think of it as live streaming from space. This also proved that our equipment could withstand the rigours of high-altitude flight.

What were you able to test?

How well scientific equipment works at that altitude. We now have hours of images, videos and



HELLO, **HEAD-TURNER**

f cars, motorbikes, buses and other motor vehicles have blinkers, why not bicycles, scooters and hover

boards? That was the question asked by the student creators of Signal, a sleek helmet add-on that uses patentpending motiontracking and brake-detection



technologies to help riders signal their intentions on the road.

The device, activated by head and body movements, automatically lights up when the user checks a blind spot or brakes to a stop. LEDs

glow yellow to indicate turns while red lights signal braking.

The head-turner is the brainchild of third-year students Ryan Tang, Malvin Tan and Louisa Ong from the School of Physical & Mathematical Sciences, and Sean Chong from the School of Mechanical & Aerospace Engineering. Their prototype was created using tools and 3D printers in the Making and Tinkering lab.

A Kickstarter campaign was recently launched for Signal, which is battery operated and needs no switches or buttons to turn on. Attach it to a helmet, adjust the straps for a secure fit, and enjoy a safe ride!



data, a valuable resource for future aeronautical and space projects.

Did the balloons make it back to earth?

No, but the payloads did. On reaching their maximum height, the balloons burst, releasing a parachute, linked to the system, which brings them back.

Back to the launch site?

We wish! Once the balloons are in the air, the chase from the ground begins, based on their estimated landing spot. We had to drive three or four hours across the Australian outback, in sub-zero temperatures, to retrieve each payload. We were thrilled to find our first payload, intact, in a canola plantation!

The most exciting moment was when...

We received data from a height of 32km, the furthest one of our balloons went. The Best Project award and the Provost's congratulatory message were the icing on the cake.

What's next for space balloons?

Space tourism. Imagine watching the sun rise, not from the sea or between mountains, but over the curve of planet Earth.



MISSION **POSSIBLE**

(From left) Mechanical & Aerospace Engineering students B Kanesh, Noorul Ameen, Lee Ee Wei and Chong Yuk Hang with their project supervisor, Assoc Prof Cesare Soci, testing out their Making and Tinkering project in Perth.

Tinker and build

With a course objective like "to design, make and build something 'fun' and maybe useful...", it's no surprise that Making and Tinkering is a popular elective. Offered at the School of Physical & Mathematical Sciences, the course gives students the opportunity to solve openended real-life problems together with their friends from other disciplines.

TOMORROW LAND

How NTU technologies are changing our future

BY LESTER KOP

BEERY GOOD IDEA

NOW NTU's food scientists have found a way to reuse spent beer grains, the byproducts of beer brewing, by turning them into a liquid that can grow beer yeast. This cuts down waste and cost, which could result in cheaper and "greener" beers. Save water, drink beer?

FUTURE Not only can waste grains be turned into growth liquid for yeast, other types of food waste like used soybeans and expired bread could be turned into liquids that grow probiotics, good bacteria that's also great for your gut.





NOW Researchers at NTU's
Fraunhofer Singapore have
developed augmented reality
software which can overlay virtual
3D images onto everyday scenes. For
example, museum-goers can point a
mobile phone camera at a picture of
a building to display its history and
read up on its architecture.

FUTURE Say hello to on-the-job training with a twist. Don your special headset to see an instruction video as you learn how to operate machinery or equipment. Forgot how to change a flat tyre? Just power on your eyewear and follow the virtual hands. With this technology, anyone can be a DIY expert.

SWELL GEL

NO SCARS! YES!
NOW Bar that scar. Now, cuts or wounds can heal perfectly with a new gel patch invented by NTU scientists. Not only will your skin heal faster, there's little or no scarring to show for any cuts you sustained, all thanks to the active ingredient that is made out of fatty tissues discarded as waste by hospitals.

FUTURE With healing gel patches, plastic or reconstructive surgery after an accident could be truly "scar-less".

BLOOMING SHELTERS

NOW Using light-responsive materials and 3D printing, scientists at NTU have produced an artificial flower that blooms in response to sunlight.

FUTURE Look out for smart products that work by reacting to stimuli such as light and humidity. How would you like to sit at a park with a shelter that automatically extends when the sun or rain is beating down, but retracts in cloudy weather, so you can enjoy the lush views? Materials scientists sure have got every situation covered.



ISTRATIONS: DEREK CHL



NTU student Rain Chua set his sights on breaking the Guinness World Record for diamond push-ups. Peter Yeo susses out the man behind the muscle

"I SET A GUINNESS WORLD RECORD"

This computer science undergrad is feeling as right as rain. In February this year, Rain Chua asked a friend to shoot a video of him completing 70 diamond push-ups in a minute and sent it to the Guinness World Records. His submission erased the previous record of 58 diamond push-ups (male) in a minute.

More than just a dare to himself, the 24-year-old wanted to show his friends that "nothing is impossible". He chose this "uncommon" record to beat because even though "people may know what a diamond push-up is, not many of us practise it on a regular basis". When the Tanjong Hall resident is not flexing his muscles, he relishes his role as a group leader at school and hall events.

While he's happy to make it to the record books, he attributes his accomplishment to a cohesive effort involving his friends. "I don't feel it is a personal achievement, but rather a team effort. My friends pushed me to break this record," he explains. He celebrated his win with a good meal, but he was soon working out again "to ensure that I maintain my fitness standards". Diamond pushups require stronger triceps muscles than regular push-ups do.



The fitness buff's body conditioning journey started from his polytechnic days. "I was motivated by watching my idols like the cofounders of fitness programme Bar Brothers, Lazar Novovic and Dusan Djolevic. My NTU friends, Elliot Ang and Jasen Teoh from the Sport Science & Management course, are also among my heroes," he says. He was also on course to getting an

award for physical fitness during National Service, but a leg injury derailed that.

While he regularly works out with bodyweight exercises such as dips and pull-ups, he added a punishing routine for seven months leading up to the Guinness challenge. That included doing "as many diamond push-ups as I can in a minute, immediately followed by five sets of 50 diamond push-ups," he says. He did this four times a week, with each training session lasting about an hour. The regime was so gruelling that he suffered an elbow injury at one point. Diet-wise. the fourth-year student ate nothing special, just cutting down on oily and fatty food.

Rain has set his sights on breaking another record. "My friend and I are eyeing the record for 'most pull-ups in one minute' by a male. We're still training for this. I hope to complete this mission before I graduate next year. It will be a tough one."

Come rain or shine, we bet he'll give it his best shot.



ONE ARM KICKING GUINNESS WORLD RECORD HOUDER RAIN CHUA SHOWS US HOW TO DO PUSH-UPS LIKE A PRO ON NTUSG YOUTUBE AND FACEBOOK.



BIG BANG

You were 16 when you bought a deli for U\$\$7,000 and used the earnings from running that to pay your way through college. How did you manage to do that?

I wanted to be somebody. That meant I had to work hard to get there, which is why I took on three jobs when I was in school. The opportunity to buy the delicatessen meant I could trade in those three jobs for my own business, a way of simplifying my life. I had all the vendors deliver the stocks to me on a consignment basis with the understanding that I would pay them back, even if it meant they would charge a little more. I learnt then that trust is the ultimate human currency.

How did this experience shape your career?

Here's a secret: The little one has to do what the big one is either structurally unable or unwilling to do. My problem was: How could I get young students to walk past my biggest competitor, 7-Eleven, to my store, a block and a half out of their way?

I observed them. I noticed there were 40 people waiting in line to get into the 7-Eleven, but there were only four people inside. I asked them: "Why are you waiting here? There's enough space for everyone in the store." They replied that the store was worried they would steal things. I told them they were free to come to my store, where they wouldn't have to wait outside. I also built a mini arcade so they could play video games. The key is to treat others with respect and trust. One of the young people later told me that if they wanted to be treated with respect, have fun and eat good food. they would come to my store. When they wanted to steal stuff, they would go to 7-Eleven.

Some say youths in Singapore tend to be too comfortable. How do we jolt the young out of their comfort zones?

We all make our own opportunities. You don't deserve to be labelled as not At 16, Bill McDermott worked three jobs and saved enough to start a business so that he could pay for college. The CEO of software giant SAP spoke to a lecture theatre packed with NTU students about how he overcame the tough times and the secrets of his success, and took their questions

He fits the

energetic or passionate enough. On the contrary, there are so many things this generation is doing, can do and will do. The hard part is finding out what your passion is. Get started on something. Don't sit around and wait for the perfect thing. The perfect thing won't come until you begin doing some things. That way, you'll learn not only what you like to do, but also what you don't like to do, and that will steer you in the right direction.

Many NTU students are looking for the next big thing to start or invest in. How would you encourage them to take the plunge?

If you have the dream as well as the capability to build the perfect thing, pursue it. But the truth is, most people don't have that level of clarity at this stage of their lives. What I would say is go for something that interests you that is roughly right. A

job that you might have fun in that is roughly right. You will figure it out as you go. Not everything will be perfect at the beginning. Don't be afraid of failure. If you start something and it doesn't work out, know that this is the time in your life for such experiments.

In your book, you mentioned wanting to wait for a comfortable job. However, you also had to make many decisions that could put you in an uncomfortable position. How do we balance this?

Throughout my life, I have been in many uncomfortable spots and that's how I learnt the value of that. Take, for example, tough assignments. When you do well in these assignments, they have an exponential effect on your career. The skill set, goal orientation and commitment to excellence is the



to get my dream
going. Ultimately, my
dream was to work
for a great company
with a great brand.
I happened to
grow the company
I fell in love with,

and that company became like a family to me. You can actually be an entrepreneur in a giant company too. Size and entrepreneurial spirit are not mutually exclusive. I still think of myself as a teenage entrepreneur, but the difference is I get to be in a big pond where one idea can do massive things.

You told us to not be afraid and step out of our comfort zone. Where did you get your confidence?

My mother always told me to trust myself. At a leadership meeting when I was at Xerox, I spoke to about 1,000 young people. I told them the best managers work for the people and that we can do well if we work on your terms and not on mine. After the meeting, another manager told me: "Bill, you must never let them know that they have that much power." To which I replied: "No, the important thing about leadership is that you don't have the power. They have the power and you have to give them an environment to do amazing things." Never let people hold you back.

What is the one most important thing about leadership?

Live your life in a super authentic way. The world will know the difference between being artificial and being real. Remember also that you are not here to take, but to give. It is not about you. Don't take credit. It's the team that needs it. Leaders of consequence are givers, not takers.

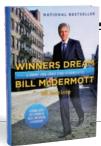
same with the tough ones and the easy ones. The only difference is that when you apply these to the difficult tasks, you can get from down here to up there much faster. When everything is going well, I constantly remind myself to stay humble, hungry and thirsty for the next idea. Challenges are in fact blessings. Get comfortable with being uncomfortable.

What advice would you give fresh grads starting out in their first jobs? Your first job probably won't be your last. There is no room for small dreams. Listen to your inner voice

and trust it. Dare to dream as big as you can. Then find a company that is in alignment with that big long-term dream. That is important as you need the learning experience, you need to be trained and you need to fail. Play to your strengths. What are you great at? Technology? Go join the tech department.

For those of us deciding whether to go into entrepreneurship or to remain in a company, what is your advice?

My teenage entrepreneurial stint was a means to an end for me. I wanted to put myself through school



Win this! Inspired by Bill McDermott's success story? We have five copies of his best-selling autobiography, Winners Dream, up for grabs.

Download the HEY! Shake app and shake your phone when you see this story on a TV screen on campus for your chance to win the book.

FEATURE



Edward Yee spent six months working in Silicon Valley and visited nearby attractions like Yosemite National Park.



Off to a STCIFF Programme gave Soh Zhen Yi the chance to plant her flag in Europe.

The Overseas Entrepreneurship Programme throws NTU students into the start-up pool in global entrepreneurial hubs. Derek Rodriguez finds out how being part of the start-up eco-system puts them on the track to future success

Do you dream of becoming the next big-time entrepreneur? You've come to the right place. The Overseas Entrepreneurship Programme (OEP), run by NTUitive, the innovation and enterprise arm of NTU, puts budding self-starters right in the thick of the start-up action.

Since the programme was introduced in 2015, about 60 undergrads have taken flight annually to London in the United Kingdom, New York and Silicon Valley in the United States, and Beijing and Shanghai in China. China-bound students on the programme can also take modules at partner universities for additional credits. With new destinations, including Berlin, Germany, and Haifa, Israel, to choose from in 2018, the number of programme participants will rise.

The NTU innovation centre in Haifa, set up in June this year, will create openings for Singapore students and made-in-NTU companies to explore the Israeli market and to collaborate with leading Israeli universities. From January, up to 20 students a year will be sent to work in high-tech start-ups in Haifa and Tel Aviv.

EXPANDING HORIZONS

Dr Lim Jui, CEO of NTUitive, believes integrating students into a vibrant start-up eco-system nurtures creativity and innovation. These qualities are valuable when designing new products or business models, and key to productivity improvements in large corporations.

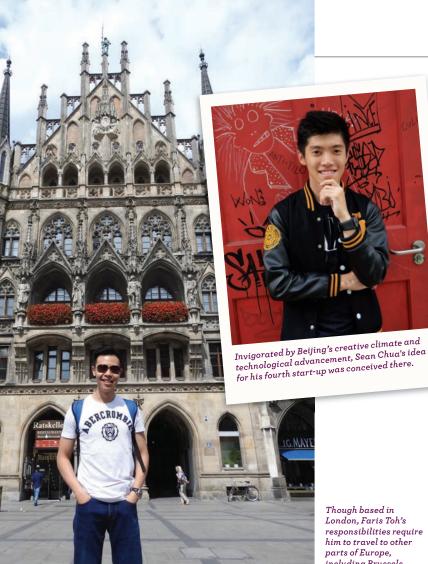
He adds: "Students will learn to multi-task, handle regulatory requirements, deal with lean manpower, and live in an overseas location. This equips them with the skills and risk-taking attitude that enables them to grow into future entrepreneurs or employers with an international outlook and enterprising spirit."

For Edward Yee, the chance to spread his wings was a "no-brainer".

"Most of my transformative experiences have taken place overseas – from backpacking across Southeast Asia to meet social entrepreneurs to travelling around India in a train and living in Bangladesh for a month," says the second-year accountancy and business student, who spent six months working at a data analytics start-up in Silicon Valley, USA.

Similarly, accountancy undergrad Soh Zhen Yi sought out an unfamiliar place as a personal challenge. The third-year student had never been to Europe before her six-month stint in London, where she worked for a fintech company under this entrepreneurship programme. She says: "Other than gaining experience in other aspects of finance, I wanted to see if I could make an impact in a start-up environment. And I thought, where better to do this than in London."

Still living his dream overseas is Faris Toh, a fourth-year accountancy



Though based in London, Faris Toh's responsibilities require him to travel to other parts of Europe, including Brussels, Paris and Munich.

and business student. Though based in London, his role in his company requires him to travel frequently to other parts of the continent. "I mostly provide technical support, but I also have to travel to Brussels and Paris for meetings with clients, and to Munich where our headquarters is."

REAL-WORLD EXPERIENCE

Most fledgling companies are lean and being part of the company means having to pull your weight and work collaboratively as a team. On the other hand, it also means having a real influence on the success of the company and a stake in it.

"My internship start-up put me through a series of structured learning and let me take up assignments in many areas, including media, marketing,

operations and investments," says fourth-year electrical and electronic engineering student Sean Chua, who interned for a year at a Beijing-based online retailer of beauty products.

"I sometimes slept for only three hours a day," adds Sean. "My hard work paid off when the CEO recognised my commitment and put me in charge of a data analytics project. I went through over 30.000 records documenting our competitors' traits and prices. It was all worth it when my findings resulted in an improved pricing model."

Third-year marketing student Lee Jia Yung, whose primary job scope was managing a Shanghai-based education technology firm's social media accounts, found himself going beyond his area of expertise too. "I was increasingly given more

responsibilities, including sourcing for partnerships and customer relationship management. I even organised the company's first offline event to promote our products to customers."

VIEW FROM THE INSIDE

Witnessing a young organisation growing from the inside provides valuable insight into what makes a start-up successful. For NTU students, it's also a risk-free way of gaining solid exposure for their future ventures.

Edward was particularly impressed by the pay-itforward culture in Silicon Valley, and found that many successful people were willing to sit down and offer advice over a cup of coffee.

"It was inspiring to see how talented people were trying to make a positive impact in the world. The drive to change the world for the better was palpable and contagious, and that's something I hope to bring to Singapore, especially as I'm starting a social enterprise of my own that aims to provide financial aid to social missions in South Asia," he says.

BE THE NEXT BIG THING

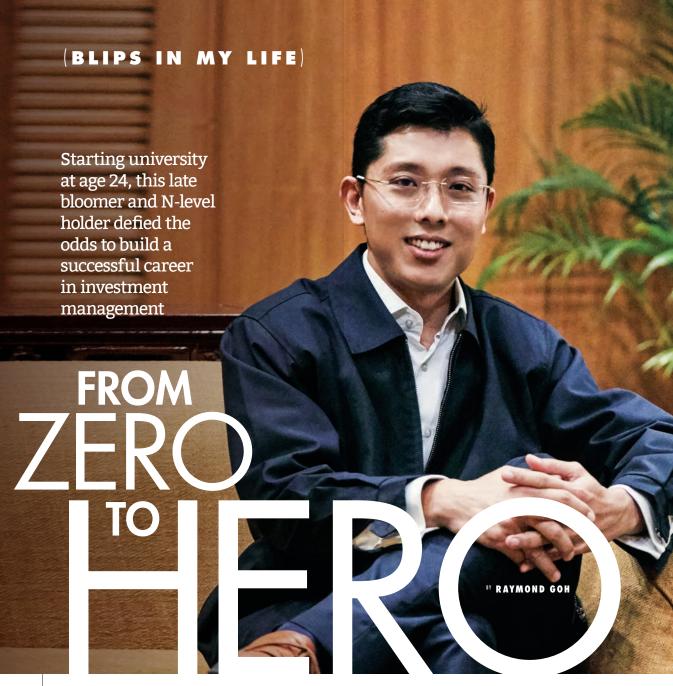
Another perk of the Overseas Entrepreneurship Programme is the help and mentorship offered by NTUitive when it comes to bringing ideas to fruition.

"Students submit a business proposal to us at the end of their stint. And if they are keen, we will work with them through an incubation process, to help them bring their ideas to the marketplace," explains

Sean, who founded Sqkii, the company which sparked treasure hunts in NTU and across Singapore, is working on his next start-up, MeU Ask, with the help of NTUitive.

"Living in Beijing increased my entrepreneurial appetite," says the serial entrepreneur, whose idea for the user-generated question-andanswer platform blossomed in the Chinese capital.





P eople who haven't seen me for some time are usually shocked to see the change in me today. I have a good career as an equity trader, with a degree in my pocket, much to everyone's surprise.

Unlike most undergraduates, I was an N-level holder who only entered university at 24. I hated studying when I was younger. In secondary school, I joined gangs and would skip school to help my aunt sell noodles in Telok Blangah. I eventually got through the N levels even though I was occasionally barred from class for misbehaviour.

But how would I make it to university with only N levels? An older friend encouraged me to join the Institute of Technical Education (ITE) first. I thought anything to get me out of the rut would be worth a try. Much to my surprise, I obtained As for some of my modules in my second year. I was thrilled – and so proud that I had finally achieved something.

FORMULA FOR SUCCESS

Doing what I was interested in probably helped. I've always liked mathematics and working with electronics, and I had even built my own computer with components bought from Sim Lim Square.

My grades were good enough to get me into Ngee Ann Polytechnic and I could even skip a year. But my parents, who ran a vegetarian food stall, were unable to pay for my education. So, in the evenings and over the weekends, I worked in a precision engineering company run by a friend's uncle. I would be in the factory till the wee hours, sometimes pulling all-nighters. I survived on three to four hours' sleep every day. Occasionally,

while the machines were running, I would steal a few minutes to nap or do my homework.

After getting a diploma in electronic and computer engineering, I was bent on joining NTU's School of Physical & Mathematical Sciences. At the university admission interview, I was guizzed about choosing mathematics over engineering, given my electronics and computer engineering background. I made the cut. Prof Ling San (pictured right, with me), now Dean of NTU's science college, said the panel was impressed with my candid replies about my past, and my determination to study mathematics despite lacking a strong foundation in the subject. I could barely complete a sentence in English when I was in secondary school but I easily got the hang of mathematics.

By now, my peers were working and owning cars. Some of my old schoolmates asked: "Brother, at this age, still studying?"
But I persevered. I managed to complete my degree with honours in three years instead of four. With the school's help, I scheduled my modules and fulfilled the number of credits required within that timeframe.

It was a tough three years. I gave part-time tuition, earning barely enough for my daily expenses. I took bank loans for the university fees. Much to my joy, I won a scholarship – \$10,000 in cash from the Ngee Ann Kongsi – which I invested. Things went well until the 2008 financial crisis where I lost almost \$80,000. Luckily, I had some savings to tide me over.

ROAD BLOCKS AHEAD

When I graduated a year later with a Bachelor of Science degree at 27, finding a job was very difficult. The market was still reeling from the collapse of Lehman Brothers. After sending out almost 100 job applications, I finally got a position as a proprietary trader with

Capstone Investment Advisors, an American firm. The company told me they shortlisted me from hundreds of applicants because they valued my real-life experience in stock trading during my student days. They also appreciated my maturity, sincerity and passion.

I did my best to improve my English, reading until I needed glasses; I had perfect eyesight before. Yet, during my first trip to the US for training, people often didn't understand what I was saying – and vice versa. At restaurants, I repeated myself many times before they understood my orders. There were times when

I attended company events and wondered what the conversation at the table was all about!

Still, after more than two years with the company, I became more comfortable working in a predominantly Western environment. My confidence grew and I joined PIMCO, a big American firm that deals with global investments. Five years later, I joined AIA Investment Management, based in Singapore, to broaden my work experience.

My biggest mistake was hanging out with the wrong friends. Choose your friends carefully. Find those who share your passion



14 Wall Street

Raymond's first trip to the West was to New York for a training stint with an American hedge fund company.

and find out who you can trust.

Today, I take great pleasure in giving motivational talks to new ITE and polytechnic students. My advice to late bloomers is to find out what you are passionate about, then push yourself in that direction. You must find something that you enjoy doing.

Raymond Goh is a trader at an asset management company.

GIVEAWAYS



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How to have a grad block party.







Being deaf didn't stop bistro-bar Pen & Inc's head chef, Ken Tan, 36, from following his dreams. Interviewing him through Alvin

Chua, a translator using sign language, Derek Rodriguez is bowled over by his inspiring story

Who taught you to cook?

My mum cooks in a canteen on Jurong Island. I learnt the ropes from her when I was young. My first dishes were onion rings and fried calamari. When I dropped out of school at 16, I decided to be a chef like my mum.

And now you're head chef at Pen & Inc.

It has been a long journey. Culinary schools refused to accept me because I'm deaf. I started by washing dishes in a ramen restaurant and observing the chef. One day, he asked me to slice vegetables and was surprised I was able to do it so fast. I was given more chances to prepare food after that and I picked things up quickly. I have been working in the kitchen for 17 years, at restaurants like 1-TwentySix, Stellar and Blackbird Bistro & Bar, where I was head chef. I've been at Pen & Inc since we opened at NTU last October.

Tell us about the first big break in your career.

I came in third in a culinary challenge early in my career, and it gave me the confidence to continue pursuing my goal.

What's the most challenging part of your job?

Communicating with my team, especially with new members. I use gestures or write on a piece of paper to get my message across. I teach them some signs too so after a while, we can even converse in sign language. In meetings, my assistant helps me keep up with the discussion by typing on a laptop.

What are your favourite dishes at Pen & Inc?

Grilled Pork Ribs, Salmon Mentaiko
Pasta, Salted Egg Yolk Prawn Burger
and Pen Salmon Steak. I created these
dishes based on ingredients and
tastes that are currently trending.
I love Japanese, Spanish and local
food, and that's often reflected in my
penchant for fusion cuisine.

What are some ingredients or seasonings you cannot do without?

Sea salt, chicken stock and garden cress.

Who is the most famous person you have cooked for?

Ms Ho Ching, the CEO of Temasek Holdings and wife of Singapore's Prime Minister, Lee Hsien Loong. I was invited to cook at a senior management meeting for her and some guests three years ago.

What do you typically eat after work?

I'm usually quite tired by then, so I either make instant noodles or buy something from the coffee shop. I only cook at home on special occasions like Chinese New Year, when I will make special dishes for my family, such as seared Hokkaido scallops with caviar.

We hear you just got hitched! What will you cook for your wife on your wedding anniversary?

Yes, we got married in June. My wife, who is a graphic designer, loves a good ribeye steak, so that's what I'll cook.

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