It’s about building up the community, it’s about building up a future in which we really share in each other’s situations.

- DPM Tharman Shanmugaratnam
NUS110 kick-off engages the community

Amid much excitement, sound and colours, NUS launched its 110th anniversary celebrations themed “Because We Care” on 1 February at Taman Jurong Community Club. The momentous occasion was held in tandem with Singapore’s 50th year of independence.

The NUS110 opening event was graced by Guest-of-Honour Singapore Deputy Prime Minister and Minister for Finance Mr Tharman Shanmugaratnam and special guest Ms Denise Phua, Mayor of the Central Singapore District and member of the NUS Alumni Advisory Board. More than 1,000 NUS staff, students and alumni, neighbourhood residents, grassroots leaders and members of the public participated in the festivities.

“We haven’t become what we are today by building individual futures for ourselves. It’s always been about building a future for ourselves and our community.”

– Deputy Prime Minister Tharman

NUS President Professor Tan Chorh Chuan noted that the launch in Taman Jurong was symbolic as medical students, through the NUS Medical Society, have been working with the Taman Jurong Citizens’ Consultative Committee (CCC) since 2008 to provide free regular health screening to residents in rental flats and following up on those with chronic diseases.

The Neighbourhood Health Service (NHS) initiative has since grown to become the largest student-run community service programme in the Yong Loo Lin School of Medicine, involving some 300 medical students as well as nursing and social work students, said Prof Tan. “NUS110 is a very timely opportunity for us to reflect, share and celebrate service to the community and we felt that it would be most meaningful for us to do this in the community, rather than on the NUS campus,” he noted.

To mark the milestone ceremony, Prof Tan announced the new “NUS Community Advancement with Research and Education Synergies” (NUS CARES) initiative.

A community advancement programme, NUS CARES will pair partner organisations with NUS faculty, researchers and students to leverage on the University’s research and academic expertise to identify persistent problems and find solutions for the betterment of the community at large.

DPF Tharman remembered discussing the start of NHS with Dr Tan Chiang Kiat, who was a second-year medical student at the time. The Minister commended NUS on its efforts to apply its scholarship to benefit the community and hoped it would inspire others to do the same.

After the launch ceremony, DPM Tharman, who is also Advisor to the Jurong GRC Grassroots Organisations, joined NHS medical students on their follow-up visits with two residents at nearby blocks of flats.

Guests at the opening event toured the “Because We Care” student showcase featuring community initiatives, and listened to talks on diabetes and health screenings. Children participated in “Little Scientists” and “Little Architects” workshops by NHS start-up Explorer Junior, and had their faces painted.

Students from the NUS Community Service Club also packed and delivered door-to-door provisions donated by Lam Soon Pte Ltd, and items contributed by NUS, to 500 households in Taman Jurong.

Reflecting the University’s longstanding tradition of service to the community and society, NUS has launched its “NUS Community Advancement with Research and Education Synergies” (NUS CARES) initiative in conjunction with its 110th anniversary celebrations at the NUS110 opening event.

NUS CARES brings together partner organisations and NUS faculty, researchers and students who will provide their research and academic expertise to find creative and practical solutions for the communities at large. The new initiative will also evaluate the solutions and approaches that NUS has developed for the projects it is involved with, and publicise them.

The hypothesis is that many in this group face problems in the psychosocial, environmental, financial and behavioural domains, besides medical issues.

Researchers and students from the Saw Swee Hock School of Public Health will design the data collection tools, while students from the Yong Loo Lin School of Medicine and the Department of Social Work will form field teams to conduct community-based surveys. The team will determine the reasons for frequent admission, and devise intervention strategies to reduce hospital admissions.

The third project brings together students from the Chua Thian Poh Community Leadership Programme and the NUS Medical Society (MedSoc) to conduct a social return-on-investment analysis of the health screening programme on the elderly and disadvantaged, performed by MedSoc students, under the Neighbourhood Health Service.
Block 71 San Francisco links S’pore-US start-ups

The entrepreneurial community of Blk 71 in Singapore now has a counterpart halfway across the globe.

Block 71 San Francisco, a co-working space to forge ties between start-up ecosystems in Singapore and the US, has been set up by Infocomm Investments Pte Ltd (IIPL), NUS Enterprise and SingNet Innov8. Singapore tech firms looking to explore US opportunities can tap this facility to better understand the market, set up business and widen their network in the tech community.

Block 71 San Francisco will also enable US-based entrepreneurs, companies and investors to learn about Singapore and Southeast Asian (SEA) markets. Accessible to firms supported by IIPL, NUS Enterprise and SingNet Innov8, it offers space, brainstorming rooms and a meeting place.

NUS Enterprise will manage the co-working space, while the three partners will hold regular events for Singapore and US-based tech companies, professionals, students and investors. IIPL and SingNet Innov8 have offices within the facility to support Singapore-based tech start-ups.

This new facility in San Francisco builds upon the success of Blk 71 in Singapore, which has evolved from an old industrial estate into a flourishing hub for high-growth, innovation-driven technology start-ups in the region.

NUS Enterprise, SingNet Innov8 and the Singapore Media Development Authority were instrumental in this transformation by establishing a strategic incubation programme. IIPL is an active investor and strong advocate of the Blk 71 community.

Block 71 San Francisco is situated in the South of Market area, a thriving up-and-coming venue for the tech start-up community, said Dr Lily Chan, CEO of NUS Enterprise. It houses major software and tech firms as well as a healthy investor and accelerator community. She is confident that the joint venture will extend Singapore’s entrepreneurship community into the San Francisco Bay Area.

Dr Alex Lin, Head of IIPL said: “The set-up of Block 71 San Francisco strengthens our role as an ecosystem builder to help local innovation-driven tech start-ups scale fast and tackle important global challenges.”

Singapore Innov8 CEO Mr Edgar Handless also pointed out the steady rise in US-based companies and venture funds looking to access the SEA market, even while SEA-based start-ups and venture funds are looking towards Silicon Valley.

Solar-powered yacht sails in Singapore water

Singapore’s first solar-powered yacht course smoothly through the waters off Changi Beach on a sunny November day and is enjoying excited NUS students and academics who had outfitted the “carbon-neutral” cruiser.

A labour of Team FrogWorks—a collaboration between the NUS University Scholars Programme (USP) and the Faculty of Engineering—the FW2 does not consume any fossil fuel while in operation. The motorised sailing vessel has been installed with three solar panels, an electric outboard motor and a lead-acid battery to provide clean energy. It successfully demonstrated the concept that yachting can be done without carbon emissions during operations on its maiden run last year.

The project team behind the boat is led by Associate Professor Martin Herz from the Department of Computer Science and USP, and Dr Joerg Weigl from the Faculty of Engineering.

The participating students pitched in what they have learnt, to overcome challenges such as designing a sturdy truss to support the solar panels, hybrid solar/wind-powered propulsion, and weather-proof electronic circuitry.

Teething problems arising from the first trial run have been identified and fixed. The craft has since circumnavigated several of Singapore’s offshore islands, and visited Batam and Bintan in Indonesia to stress-test the installed system.

Recent technological advances have made it possible to rely on the sun as the sole source of energy for motorised yachts, explained Assoc Prof Herz. He expressed confidence in the FW2’s ability to deliver energy savings and aims to completely eliminate the use of fossil fuels, even on long-distance voyages. Actual savings of gasoline would depend on the wind conditions, he said.

Dr Weigl concurred: “The current configuration provides energy for four hours of full-speed operation or 10 hours of cruising. With sunlight, the boat is able to achieve six hours of full-speed operation, cruise mode for an entire day.”

Other configurations such as lead-acid and lithium-ion batteries may offer scope in the future.

First-year Materials Science and Engineering student Zhang Shuyao signed up for the project because of her keen interest in solar energy. “The most significant gain I have obtained through participating in the project is the exposure to an actual engineering process,” she said.

PM Lee checks out Blk71

At the official opening of JTC LaunchPad @ one-north on 23 January, Guest-of-Honour Singapore Prime Minister Lee Hsien Loong toured the dynamic Block 71 San Francisco, a co-working space to forge ties between start-up ecosystems in Singapore and the US, has been set up by Infocomm Investments Pte Ltd (IIPL), NUS Enterprise and SingNet Innov8. Singapore tech firms looking to explore US opportunities can tap this facility to better understand the market, set up business and widen their network in the tech community.

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Campus picnic fetes everyday heroes

NUS’ unsung heroes, including security guards, cleaners, bus drivers and librarians, were treated to a Thanks!NUS Appreciation Picnic organised by the NUS Students’ Union (NUSU) on 16 January.

After enjoying a generous buffet spread at the Central Library Forum, the guests were given goodie bags of useful items and regaled with Cantopop and evergreen favourites performed by students.

The occasion launched NUSU’s three-month Thanks!NUS Campaign, which features specially designed thank-you cards that students can give away as tokens of appreciation, a social media campaign; and a Community Wall that profiles prominent NUSU volunteers and highlights volunteers’ messages.

NUSU President Lim Kok Seng said: “This event is to kick-start the whole Thanks!NUSU campaign. It sends the message that we have to care for the community, beginning with ourselves.”

One of the Picnic guests, Ms Chong Loy Yin, said she appreciated NUSU’s efforts. “The students think about our contribution. I thank them for their acknowledgement,” she said.

The NUS librarian who worked at the Chinese Library for more than 40 years.
Prominent NUS scholar receives Asia Cosmopolitan Award

Professor Wang Gungwu, University Professor and Chairman of the East Asian Institute at NUS, has been presented with the Economic and Social Science Prize of the 2nd Asia Cosmopolitan Awards. The award acknowledges his academic achievements and educational activities focusing on Asia that recognise the value of intercultural exchanges.

The biennial Asia Cosmopolitan Awards is jointly organised by the Economic Research Institute for ASEAN and East Asia (ERIA) and Nara Prefecture in Japan. It honours individuals or organisations that have contributed significantly to the development of a peaceful and stable East Asian community through cultural and economic integration by narrowing developmental gaps, as well as establishing sustainable social growth.

A well-known historian with research interests spanning Chinese history, the overseas Chinese, nationalism and migrations, Prof Wang noted in his acceptance speech that Asia has seen the development of a new understanding of national identity even as the countries pushed to modernise its economies. He also praised ASEAN, which had overcome numerous obstacles to build a commitment to cooperation and connectivity in a diverse region featuring different traditions.

Prof Wang was one of the two awardees for the Economic and Social Science Prize, the other being Professor Peter David Drysdale, Emeritus Professor of Economics at the Australian National University.

India’s former Prime Minister Dr Manmohan Singh was honoured with the most prestigious Grand Prize for his contribution in transforming India’s economy and its integration with the broader East Asian economy.

NUS strikes gold at ASEAN University Games 2014

The NUS Business School’s Master of Business Administration (MBA) program has advanced one spot to 31st in the Financial Times’ (FT) Global MBA Ranking 2015. The results strengthen the programme’s position as the highest-ranked MBA degree offered by a Singaporean university.

“The NUS MBA’s consistent performance in the FT’s global ranking is welcome news as we celebrate the School’s 50th anniversary this year. Going forward, and in line with our vision to be the leading business school in Asia, we will strive to scale greater heights,” said Associate Professor Susanna Leong, Vice Dean (Graduate Studies), NUS Business School.

The NUS MBA ranked 31st in the world. In addition, about 98 per cent of NUS MBA graduates found jobs within three months of completing their programme, making the strong global and local demand for graduates of the degree.

The latest performance followed FT’s October 2014’s global Executive MBA rankings which placed the UCLA-NUS Executive MBA at 4th in the world, and the School’s Asia-Pacific Executive MBA at 18th.

ACCOLADES

NUS NEWS

Yusof Ishak Professorship gets head start

The Yusof Ishak Professorship in Social Sciences, established at the NUS Faculty of Arts and Social Sciences after its announcement by Singapore’s Prime Minister Lee Hsien Loong at the National Day Rally 2014, has received a generous $500,000 donation from Temasek Holdings.

Paying tribute to Singapore’s first President, Encik Yusof bin Ishak, the Professorship enables the appointment of leading social science academics in the teaching and research of multiethnity and multiculturalism. The selected candidates will assume stewardship for enhancing cutting-edge research in one or more of the following fields of study: race, ethnicity and community studies and multiculturalism; communication and civic engagement; and studies of religion and religious diversity.

Encik Yusof also served from 1965 to 1970 as the Chancellor of the University of Singapore, the predecessor institution of NUS. During his term, he urged the University community to focus on nation-building, in addition to becoming a centre for scholarship.

Fund-raising for the Professorship is undertaken by SG50Kita, an independent committee driving the Malay/Muslim community’s efforts in celebrating Singapore’s 50th anniversary this year. The use of “kita”, a Malay word for “us”, represents the committee’s determination in getting the Malay/Muslim community to stand together with the other communities in Singapore to contribute to the nation.

SG50Kita views Encik Yusof as an illustrious embodiment of the spirit of service and unity. As Singapore’s President, he guided the country through the tumultuous early years, and concentrated on fostering harmonious relations among the different races.

Temasek Holdings is the first major benefactor of the fund. Mr Gary Ang, the group’s Managing Director, Strategic and Public Affairs, said: “We are happy to support SG50Kita’s ongoing efforts to raise funds for NUS’ Yusof Ishak Professorship. Our sponsorship is part of a series of contributions we’ve made to honour Singapore’s pioneer generation; and includes the various endowments that we have funded and named after other founding fathers such as S Rajaratnam, David Marshall and Hon Sui Sen.”

SG50Kita is working towards a total endowed fund of $6 million by year-end, inclusive of a 1.5 times matching government grant.
Global governance moves towards multilateral power

Globalisation impacts human well-being and health

Globalisation is like the Roman god Janus who has two faces—one smiling and one grimacing—due to its negative and positive impact.

Mr Pascal Lamy, President Emeritus, Notre Europe, Jacques Delors Institute, France and Former Director-General of the World Trade Organization, made this observation during his keynote address titled “Globalisation and Human Well-being” at the inaugural Raffles Dialogue.

Organised by NUS and the National University Health System, the event saw opinion leaders examine risks faced by humanity as a result of the globalisation of economies, geopolitical tensions, environmental degradation, disease spread and poverty.

Globalisation has helped lift a sizable proportion of the world’s population out of poverty, improved health and prolonged life. However, it has also given rise to great inequalities, said Mr Lamy.

The main risk to health in globalisation has switched from communicable diseases to non-communicable ones associated with longevity, nutrition, lifestyle and richer consumption habits attributable to rising income.

Despite the rapid expansion of knowledge, the effectiveness of addressing public health issues is still greatly dictated by politics, he pointed out. A balance has to be struck between contradicting needs: on the one side, innovation and investment for new treatments, with protection of intellectual property rights; and on the other, availability of affordable medicines to the masses, especially in low-income geographies.

Mr Lamy is convinced that localising global issues can be the way to improving health. Public authorities, civil societies and businesses have to work together to make drugs more accessible. This calls for local or regional governance and policies, harmonising of standards, marketing authorisations for medicines, and affordable drug pricing.

“What matters in the future is to find the right way to reinvent our current systems,” Mr Lamy stressed.

He noted that the West sees a distinction between mind and body. Thus, the Western health system focuses on “fixing” the body with medicines, as opposed to the more holistic views of some Asian and African cultures.

Mr Lamy believes that the best approach to the health problem is prevention, and sometimes social sciences can better address the issue than the knowledge of hard sciences.

The Raffles Dialogue, held at Raffles Hotel from 2 to 3 February, builds on Singapore’s success in hosting the World Health Summit’s premiers’ meeting in 2013. It commemorates the 110th anniversary of NUS Yong Loo Lin School of Medicine, and the 110th anniversary of the Mexico Ministerial Summit on Health Research.

Science bridges humanity’s differences

Science can only be a bridge if it is equitable, accessible, and productive—made relevant to the regions and populations in which it is needed, said Nobel Prize Laureate for Physics Professor Brian Schmidt.

Prof Schmidt believes that the next step in addressing the problems of inequality is a user-driven research that improves the quality of education worldwide. He noted that science should be taught by practitioners who are developing the next generation of practitioners, and that the problem is not to replicate the same model but to adapt it to local needs.

Prof Schmidt spoke on how science can overcome differences and bring people together, highlighting the importance of collaboration and sharing knowledge to address global challenges.

Science and technology can play a significant role in bridging cultural and linguistic divides, according to Prof Schmidt. He emphasized the need for a multidisciplinary approach to science education and research, as well as the importance of involving the public in these efforts.

Prof Schmidt also discussed the role of science in addressing global challenges such as climate change, nuclear proliferation, and pandemics. He noted the importance of international cooperation and strong institutions in order to tackle these issues.

“Looking ahead, it is clear that there will be new challenges for science to address. We must continue to invest in science and education, and work together to solve these problems,” Prof Schmidt concluded.
**Mega-attraction to rejuvenate Mandai**

The verdant Mandai precinct in Singapore, home to the popular Singapore Zoo, Night Safari and River Safari, will be getting a makeover to make it even more alluring to visitors. As part of the government’s vision for a massive nature-themed attraction in the area, the considerable enhancement will provide green public spaces for recreation and education.

Announced by Prime Minister Lee Hsien Loong last September, the project will be spearheaded by Singapore investment company Temasek Holdings (Temasek) and the Singapore Tourism Board. The development will cover about 120ha, integrating the current cluster and the Singapore Tourism Board.

Temasek will partner with NUS across several fronts as part of the company’s long-term plans to create a major attraction featuring strong research and educational facilities. The Lee Kong Chian Natural History Museum at NUS will be helping with the Environmental Impact Assessment (EIA), together with national agencies such as the National Parks Board and Public Utilities Board. By leveraging the biodiversity expertise of the Museum, the EIA will ensure that the development plans are environmentally sensitive and preserve the overall natural environment as far as possible.

The Museum will also be working closely with experts from other NUS faculties and research institutes to help ensure the sustainability of the mega-project. Sustainable solutions in water and energy use, green designs, recycling, as well as environmental mitigation and protection are being explored. The intention is also to enhance the nearby nature reserves, in line with global best practices and the national green agenda.

Head of the Museum Professor Peter Ng, who leads the NUS advisory panel, praised the endeavour to have a green sustainable project that can further education and research in biodiversity and conservation, as well as add value to the nature reserves. “Many ideas have been floated but Temasek has assured us that this is still a ‘work in progress’ and they welcome our inputs to make this a one-of-a-kind facility,” he said.

**Conservatory hosts international violin competition**

The inaugural Singapore International Violin Competition (SIVC) hosted by NUS Yong Siew Toh Conservatory of Music (YSTCM) from 10 to 21 January saw 35 young violinists vying for the top prize.

The finalists were chosen from a blind listening test of close to 150 applications from 27 countries. Singapore was represented by YSTCM alumnus Loh Jun Hong, Phang Li Li and See Ian Ke, while three current YSTCM students – Kornav Oleksandri, Shi Xiaowen and Wong Yat Sze – were also among the contestants.

The landmark cultural initiative for the country and region served as a platform to uncover talented musicians under the age of 30. Associate Professor Qian Zhou, founding Head of Strings at YSTCM, chaired the jury of illustrious musicians. She declared that the consistently high standards displayed would establish the SIVC’s reputation and attract top global talents.

A distinctive feature of the triennial SIVC was its three-year loan of a violin from the outstanding Rin Collection to all six major prize winners. The collection, which consists of more than 500 exquisite violins, violas and cellos, is owned by entrepreneur and philanthropist Mr Rin Kei Mei and his wife. In conjunction with the competition, selected instruments from the Rin Collection were displayed at YSTCM.

Taiwanese violinist Tseng Yu-Chien clinched the First Prize with his consistent performance throughout the competition and his soulful rendition of Sibelius’ Violin Concerto in D minor, Op. 47 during the Grand Final. He received $67,000 (US$50,000), a recording produced and distributed globally by Naxos, a leading classical music recording label; international performance opportunities with some of the world’s great orchestras; and a three-year instrument loan from the Rin Collection.

Professor Bernard Lanskey, Director of YSTCM, paid tribute to the strong support provided by Mr Rin who championed this event’s premiere in Singapore. The philanthropist has also committed to the event’s premiere in Singapore. The philanthropist has also committed to the event’s premiere in Singapore.

The Guide also praises efforts taken by the Office of Environmental Sustainability at NUS to spread sustainability messages via its website and social media platforms.

**Sustainability guide offers universities green tips**

Universities around the world can now take a leaf out of a practical guide in their drive to go green.

The Green Guide for Universities was created by NUS and nine other universities under the International Alliance of Research Universities (IARU), in collaboration with Scandinavian think tank Sustainia.

The sustainability resource features a portfolio of easy-to-access tools and guidance for building maintenance, green purchasing, transportation, as well as employee and student involvement across campus and between departments.

It presents 23 case studies of successful environmental, financial, and social interventions and best sustainability practices already implemented at NUS, the Australian National University, ETH Zurich, Peking University, The University of Tokyo, University of California at Berkeley, University of Cambridge, University of Copenhagen, University of Oxford and Yale University.

For instance, it illustrates the successful plastic bag tax initiative by the Students Against Violation of the Earth (SAVE) at NUS.

SAFÉ President Aisha Redzwan explained that the tax collected is channelled to the NUS Sustainability Fund for student-initiated environmental projects such as the building of community gardens and composting of food waste.

The guide also praises efforts taken by the Office of Environmental Sustainability at NUS to spread sustainability messages via its website and social media platforms.
New flycatcher takes on name of NUS professor

A newly discovered bird, first observed some 17 years ago on the Indonesian island of Sulawesi, has been named after a professor at the National University of Singapore (NUS). The bird, a flycatcher species, was named M. sodhii, in honour of NUS conservation biologist Prof Navod Sodhi.

“Many different species of Muscicapa flycatchers look very similar to one another, so in order to make sure we’ve not describing something that’s already known, we had to compare the DNA of this new species against the DNA of all other flycatcher species of the same genus which we could get hold of,” he said.

Besides the flycatcher, several animals, including a small, a fish as well as a new genus and species of crab, carry Prof Sodhi’s name. Co-author of the paper, Dr Reline Hardiono from the Indonesian University, said of his former mentor: “The naming of so many species in honour of Sodhi shows how important he was to his students and collaborators. He probably would have been particularly pleased with our bird description, though, because he was an ornithologist, and so few bird species remain to be described.”

There is more to the giant clam than a pretty iridescent shell that pleases the eye. The endangered animal contributes to the reef ecosystem as a form of food, shelter, building material and nature’s filtration system. It is one of the largest bivalves in the world. The darkly mottled throat, as well as shorter wings, a more strongly hooked bill and shorter tail feathers have also contributed to its classification.

The researchers conducted field trips to track down the elusive bird within and around the National Park in 2011 and 2012. They were finally rewarded with sightings and specimens, the latter provided by a local bird hunter. Based on morphology, genetics and vocal cues, they determined that it is a new species.

NUS Department of Biological Sciences Assistant Professor Frank Rheindt from the NUS Department of Biological Sciences is one of the authors of the research paper published in PLOS ONE detailing the characteristics of M. sodhii. Through his phylogenetic analysis of the specimen using DNA sequencing, Aist Prof Rheindt played a critical role in the confirmation of the bird being a new species of flycatcher.

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Research on giant clams by Dr Neo Mei Lin and Asst Prof Todd will help in conserving the endangered animals roles in the marine ecosystem. A significant source of food due to their sizable soft tissue masses, the creatures also discharge photosynthetic algae, gametes and faeces which are eaten by opportunistic feeders. They shelter reef fish and living organisms, as well as sustain marine habitats by filtering out excessive nutrients which could cause algal blooms and harm the reef. Even after death, their massive shells continue to build up reefs.

In another recent study published in Marine Biology, Department of Biological Sciences Assistant Professor Peter Todd and his former Honours student Ms Pamela Soo documented that giant clams crawl towards each other to clump together. The behaviour may lower individual risk of predation, increase the probability of successful reproduction and reduce the effect of wave energy on single animals. This knowledge will help restocking strategy in mariculture.

Currently, the number of giant clams in Singapore waters cannot support reproduction due to their low numbers. Only three species – Tridacna squamosa, Tridacna crocea and Tridacna maxima – out of the five indigenous to Singapore have been seen locally. At NUS’ giant clam hatchery on St John’s Island, Dr Neo and team are cultivating three cohorts of T. squamosa and 50 sub-adult Tridacna crocea individuals, which will be used to restock local reefs.

The giant clam (Tridacna maxima) is one of the five indigenous to Singapore which have been seen locally. At NUS’ giant clam hatchery on St John’s Island, Dr Neo and team are cultivating three cohorts of T. squamosa and 50 sub-adult Tridacna crocea individuals, which will be used to restock local reefs.
Cell adhesion breakthrough elucidates disease process

The ability of cells to stick together plays a crucial role in essential biological processes in the body, such as embryonic development and maintenance of healthy tissue. Failure in this adherence ability of cells has manifested in many diseases such as diabetes, Alzheimer’s disease and cardiovascular disease. For example, ineffective cell adhesion allows tumor cells to detach and invade other tissues, causing the spread of cancer. However, research and understanding on cell-cell adhesion mechanism has been lacking.

Thus, a recent discovery by the Mechanobiology Institute, Singapore (MBI) at NTU in how such an important complex is regulated will provide key fundamental knowledge on disease-related defects.

The breakthrough work headed by Principal Investigator Assistant Professor Ronen Zaidel-Bar, also an Assistant Professor at the NUS Department of Biomedical Engineering, described in detail the role of several proteins involved in cell-cell adhesions called the cadherin interactome.

Reported in Science Signaling on 2 December 2014, the paper explained how cadherin binds to catenin and actin – proteins that form the core of the cell-cell adhesion – and the regulation of the cadherin-catenin-actin complex.

The MBI researchers cleverly combined experimental and computational techniques to unveil the complex network of proteins that interact with epithelial cadherin (E-cadherin). E-cadherin provides a “cellular handshake” in a mechanism that can be described as a “cellular handshake”.

The team discovered 561 proteins associated with E-cadherin, of which 419 are completely novel. Any breakdown in the series of events involving these proteins could result in impaired cell adhesion and disease.

The groundbreaking findings will allow doctors to identify defects associated with diseases to be identified, and potential new targets investigated for possible treatment.
A special talent

Pathlight School’s Glenn Phua spent close to 90 hours working on three line drawings of NUS’ campuses. The talented 18-year-old, who has made a mark with his detailed drawings, completed the distinctive artworks as part of a project between NUS and Pathlight School.

This year, NUS celebrates its 110th year of founding together with Singapore’s Golden Jubilee (SG50). In keeping with the anniversary theme of “Because We Care”, the University is looking to actively continue its long tradition of contributing, and making a difference, to society. One of the projects initiated by NUS’ Office of Corporate Relations (OCR) focuses on working with social enterprises such as Pathlight School on gifts development, and opportunities to showcase Pathlight student talent to the wider community.

Pathlight School is the first autism-focused school in Singapore that offers Singapore’s mainstream academic curriculum together with life-readiness skills. It caters to students with autism and related disorders, aged seven to 18 years old, who are cognitively able to access mainstream academic curriculum but require additional support such as smaller class sizes, special accommodations and teaching staff trained in autism.

Pathlight recommended that OCR work with Glenn on a series of line drawings that were ultimately used in the University’s online and printed 2014 year-end greeting cards. These art pieces were of University Town’s Education Resource Centre, Bukit Timah Campus and Duke-NUS Graduate Medical School Singapore (Duke-NUS). He spent an average of 20 to 30 hours on each drawing.

“As parents, we’re very proud of Glenn’s drawings of NUS, and it is a double blessing that NUS’ 110th anniversary coincides with SG50,” said Glenn’s father, Mr Kelvin Phua. The walls of their apartment are proudly lined with drawings of buildings and street scenes, brought to life by the young artist.

Glenn was diagnosed with autism at the age of four. However, his artistic streak began emerging at age seven, when he started drawing cartoon characters such as the Simpsons. He then progressed to more intricate designs including vessels and street scenes. Best known for his work on street scenes, Glenn’s distinctive style is captured in confident bold strokes in black marker, done without sketching first in pencil.

Mr Phua said he first noticed his son’s artistic skills when he won first prize at the 2010 UBS Formula 1 art competition at age 14. His pieces have been presented as gifts to Singapore’s Prime Minister Lee Hsien Loong in 2011 and to Sri Lanka’s former First Lady Shiranthi Rajapaksa in 2012.

The Autism Resource Centre, parent charity of Pathlight School, will establish an art gallery with artists-in-residence at a community space located along Redhill Road. Slated to open in late 2015, Glenn will be one of the artists-in-residence.

When asked about what he wants to be when he grows up, Glenn said: “I want to be a famous artist.”

With a talent so special, it will only be a matter of time.