



Discover the UQ Science Advantage



TOP FACTS YOU MEED TO KNOW

- · UQ is in the top 1% of all universities worldwide. This has been measured by three key global university rankings: the Times Higher Education; Shanghai Jiao Tong and **QS** World Universities
- · UQ is ranked 5th in the world for the fields of environment and ecology in the latest National Taiwan University performance ranking of Scientific Papers.
- · Generous advanced standing arrangements with polytechnics in Singapore.
- · Broadest range of science programs in Australia from agriculture to zoology. (www.uq.edu.au/study)
- · More than 150 student societies including a vibrant UQ Singaporean Students Society (UQSSSS) to help you get started and get active at UQ.
- · Opportunities for enriched learning experiences including field trips, concurrent diplomas or summer research scholarships with one of the research groups in over 1800 laboratories.



Situated in Brisbane - Australia's fastest growing city - The University of Queensland (UQ) blends the best of academic excellence with unbeatable lifestyle.

Ranked in the top 1% of universities worldwide, UO is a world leader offering hundreds of programs. Where UQ really excels is inthe sciences, with global rankings in Environmental Science (5th), Mathematics (32nd) and Biological Sciences (38th). Traditional programs such as biotechnology and biomedical science continue to attract many Singaporean students, and now students are also looking at a broader range of UO science programs from agriculture and environment to marine science and zoology.

UQ - SOLVING THE BIG ISSUES



As the global population climbs towards 8 billion, solutions need to be found for immediate problems such as food production, disease control and more efficient use of water, fertilisers and energy sources. Researchers at the UQ are answering these problems using cutting-edge technologies and working with international collaborators to protect our future.

CONTROLLING DISEASE

To reduce the number of human infections from dengue fever around the world, biomedical researchers at UQ have developed a new portable tool to detect dengue virus-infected

The simple diagnostic kit can be used in the field to detect dengue infection in large numbers of mosquitoes and the information can then be unloaded with GPS information via mobile devices

to coordinating centres. With almost half of the world's population at risk of contracting the virus, the kit is rapid specific does not require specialised equipment or personnel and can be used in developing regions of the world where dengue is a significant health and economic burden.

FUELING THE PLANET

With worldwide demand for transport fuels set to ise by up to 82 per cent by 2050 according to the World Energy Council, UQ is leading global esearch into biofuels to find a sustainable transport alternative, IIQ scientists agree that no single plant provides the answer to replacing liquid fossil fuels and are collaborating with the industry on a number of alternatives. This includes sourcing biodiesel from the seeds of a legume tree (pongamia) and microalgae, and also developing high-sugar varieties of sorghum and sugarcane for efficient ethanol production.

SUSTAINABLE HORTICULTURE

In the future, "smart cities" like Singapore will incorporate vertical greenhouses to enable residents to grow their own organic produce to limit usage of cars, sprawl of communities and haulage of food over long distances. UQ researchers are trialling the use of vertical gardens utilising grey water to nourish garden roofs and walls reduce carbon dioxide output.



Advanced Standing

One of the best reasons to consider UQ is its substantial advanced standing (credit) opportunities for Singaporean polytechnic

Depending on your diploma program, students often receive 1-2 years advanced standing, meaning you can achieve your full bachelor qualification in scie<u>nces</u> within 1-2 years of further study.

Employability

UQ is proud to have one of Australia's most successful research commercialization programs as well as a graduate employment rate well above the national average, all supported by 2,000 research specialists across 7 dedicated institutes

and to provide natural cooling and shade.

To reduce water usage, UQ scientists have also developed a number of ornamental plant species designed to grow in hot and dry conditions with a moderate amount of humidity, making them an ideal low watering sustainable plant.

To contribute towards UQ's carbon offset nitiatives, the Gatton campus was recently planted with almost 1500 critically endangered rees. The planting provides a linkage between two existing remnant and healthy patches of the tree species to create vital habitat for local animal species, and to create a "living laboratory" for teaching and research

Study the Environment at UQ

UQ offers two undergraduate environment programs - Bachelor of Environmental Management (BEnvMan) and Bachelor of Environmental Science (BEnvSc) - which provide you with excellent global career opportunities.

Bachelor of Environmental Management

The BEnvMan bridges the gap between science and management allowing you to specialise in Natural Systems & Wildlife or Sustainable Development. Study environmental management, decision making and policy analysis, and gain practical experience with an industrial placement and an in-depth research project. Field trips may include the Australian outback, Hong Kong and Vietnam.

Bachelor of Environmental Science

to preserve existing environments or rehabilitate degraded

Resource Science, you will gain in-depth scientific skills in the

lab and on field trips to World Heritage rainforests, the Great

sites. With specialisations available in Earth Resources;

Barrier Reef and outback Australia.

Ecology; Molecular and Microbial Science; and Natural



Biomedical Science and Biotechnology

At UQ, biomedical science and biotechnology are also at the forefront of environmental solutions, controlling diseases in humans, animals and plants. If you are interested in immunology and infectious diseases, rapid diagnosis of diseases in plants or wastewater management, then four-year programs such as the UQ Bachelors of Biomedical Science or Biotechnology can offer exciting pathways into careers that could "save the planet". You will work in such diverse industries as agriculture, pharmaceuticals, or government and research agencies on new and innovative solutions to issues affecting the planet's populations.



In the BEnvSc you will focus on describing, monitoring and predicting fundamental scientific processes in the environment

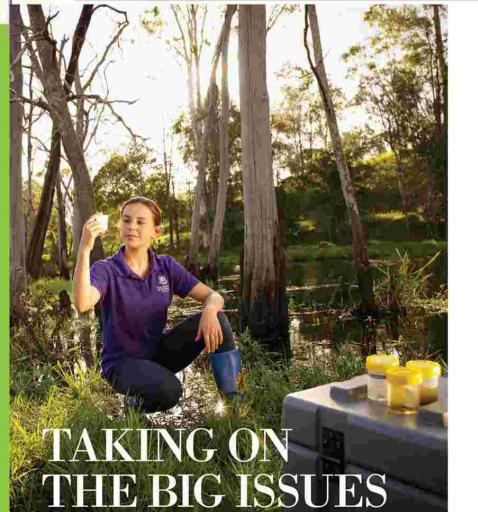
Email: study@ug.edu.au

Phone: +61 3 8676 7004 (Outside Australia)

CONTACT US FOR PROGRAM DETAILS

Program details: www.uq.edu.au/study

Enquiry form: www.uq.edu.au/international/enquiry



As the global population climbs towards 8 billion, solutions need to be found for immediate problems such as food production, disease control and more efficient use of water, fertiliser and fuel,

Researchers at The University of Queensland (UQ) are answering these problems using cuttingedge technologies and working with international collaborators to protect our future.

Study Environmental Science, Environmental Management, Biomedical Science or Biotechnology at UQ to be a part of this global future.

Discover why UQ is one of the top 5 universities in the world for environment and ecology studies at www.science.ug.edu.au/international

YOUR UQ. YOUR ADVANTAGE.





Eco Australia

GOING GREEN WITH YOUR DEGREE

Environmental/ Sustainable Engineering

Innovative green technologies today wouldn't have existed without the ingenuity of engineers. Courses in electrical or mechanical engineering develop systems that support and harness renewable energy systems, including solar, hydro, wind and biomass generation technologies. Electrical Engineers focus on harnessing energy-efficient power, while Mechanical Engineers specialise in the design of systems related to sustainability. Career options include working with government bodies, or jobs in environmental consulting, power stations and renewable energy technologies.

STUDY AT: University of Queensland, University of Adelaide, Murdoch University, University of Newcastle, RMIT University, University of South Australia, Monash University, University of Wollongong, University of New South Wales, etc

.

Ecotourism/ Sustainable Tourism

Thanks to a rapidly-growing population of travellers, ecotourism is placed at the forefront of the tourism industry to help reduce the impact of carbon footprints. Courses in Ecotourism cover aspects of tourism, conservation and management in tandem with topics like climate change and ecology, and often involve field trips. Students with eco-related courses can participate in the International Centre for Ecotourism Research (ICER) research programme at Griffith University, recognised as the world's authority on ecotourism research. Career options range from being at the front line of the travel industry to being a consultant for tourism/environmental bodies.

STUDY AT University of Queensland, Griffith University, Charles Sturt University, University of Newcastle, University of South Australia, etc

From sustainable designs to conservation research, a career in these fields are in demand today as urban encroachment and mass energy consumption require specific skill sets to improve the quality of both human and the environment.

In response, universities in Australia are keeping up with the times by offering eco-related degree courses to prepare students for the future.



Environmental Management/ Sustainability Science

A multi-disciplined role, environmental managers help to improve the quality of the human environment and challenges include balancing the scarce resources and environmental pollution with economic growth. Generally, the programme bridges the gap between science and management, where students develop the ability to manage complex problems that threaten the survival of natural systems. Career options include jobs dealing with environmental research, energy management, eco-tourism and environmental law.

STUDY AT University of Queensland, Murdoch University, etc

Sustainable Agriculture

Food is what fuels people, and agriculture is the source of all that we consume, making sustainable agriculture crucial for the long-term survival of our food chain. The course provides students with an understanding of current food systems, from farming to food processing, consumption and waste sectors. It focuses on making a more sustainable agricultural production from farm to plate, where students will gain critical thinking and management skills for this complex challenge. Career options include positions in agriculture and environmental management in both governmental and large private entities.

STUDY AT: University of Queensland, University of Adelaide, University of Sydney, etc



Conservation Biology

As wildlife habitats are severely being encroached by urbanisation, conservation biology tackles issues on how to reduce or slow down the extinction rates of animal and plant species. The course involves lab and hands-on classes in ecology, genetics, evolutionary biology and conservation to give students the tools to help maintain the diversity of the earth's fragile ecosystem. Further specialisation in marine science, conservation or biotechnology are possibilities, with lab or field-work career

options that provide scientific data and advice to governmental bodies or

STUDY AT: University of Queensland, Murdoch University, University of Western Australia, Monash University, University of New South Wales, University of Wollongong, etc

Sustainable Environmental Design/ Environmental Urban Planning

These days, there is a demand for sustainable urban planners thanks to the boom in the building and construction industry that need to rely on more eco-friendly methods of construction. Equipping students with a foundation in technical skills in property-related industries like architecture, quantity surveying, urban development and construction, courses also focus on sustainable development in tandem. Some courses also address institutional and legal frameworks for planning of urban spaces. Career options include property related fields like property development, project management and urban valuation, which is in demand in burgeoning cities across Asia.

STUDY AT: University of Queensland, Bond University, Griffith University, Murdoch University, University of South Australia, etc



been keeping baddies at bay for 75 years. Probably the most eco-Priendly superhero out there, he gets all of his powers from the sun - making him a 6-2 battery pack of solar-powered energy. Don't have super strength or the ability to fly (even with a cape)?

If you're more brains than brawn, you can still walk the walk in Superman's iconic red underpants by furthering your studies in a technical field like 'Chemical Engineering or 'Environmental Engineering and help save Earth's fast-depleting resources by learning to utilise and harvest the sun's natural energy.

THINK GREEN, AND THE STEREOTYPES THAT CONJURE UP IN YOUR HEAD INCLUDE TREE HUGGERS. BOISTEROUS HIPPIES AND PICKET SIGN-HOLDING ACTIVISTS. HOWEVER, IF YOU'RE JUST AS PASSIONATE ABOUT THE ENVIRONMENT AND WANT TO BREAK AWAY FROM THE MOULD, CHOOSE TO PURSUE THIS HIGH ROAD WITH NEON SPANDEX INSTEAD.

WHETHER YOU CHOOSE TAKE A LEAF OUT OF THEIR BOOK OR CREATE YOUR VERY OWN ALTER EGO. HERE'S A LIST OF 5 SUPERHEROES THAT HAVE KEPT PLANET EARTH SAFE WITHOUT COMPROMISING THEIR GREEN EFFORTS:

Besides being decked in green and possessing a ring that is described to be the most powerful force in the world, all of Green Lantern's abilities are environmentally-friendly because they are dependent purely on will-power - no burning of fossil fuels or chemicals. If such power strikes a chord with you, then conserving energy could be your game. You can study various aspects of energy production in programmes such as 'Carbon Management and Renewable Energy Engineering. Not quite the Lantern's unlimited power, but still pretty close.



While he doesn't look like your average superhero, Swamp Thing is all about protecting the environment. Originally a scientist who was working on making deserts into forests, the beast version is just as passionate about the earth's flora. His powers include being able to travel the cosmos and control all forms of plant matter around him to give him superpowers. While looking like plant matter might not be appealing, you can try taking up a course like Biotechnology' or 'Biophotovoltaic', and harness the energy of plants to save the earth.



Nicknamed the King of the Seven Seas, there is more to Aquaman than Just a tight, fishscale suit. This intrepid hero has been the face of marine conservation - known for protecting marine life and monitoring the sea's condition by fighting off conniving fisherman and oil spills decades before the cause became cool. So if you share Aquaman's unquenchable thirst to see the seas protected, you could choose to specialise in areas like Marine Science or Biological Oceanography.

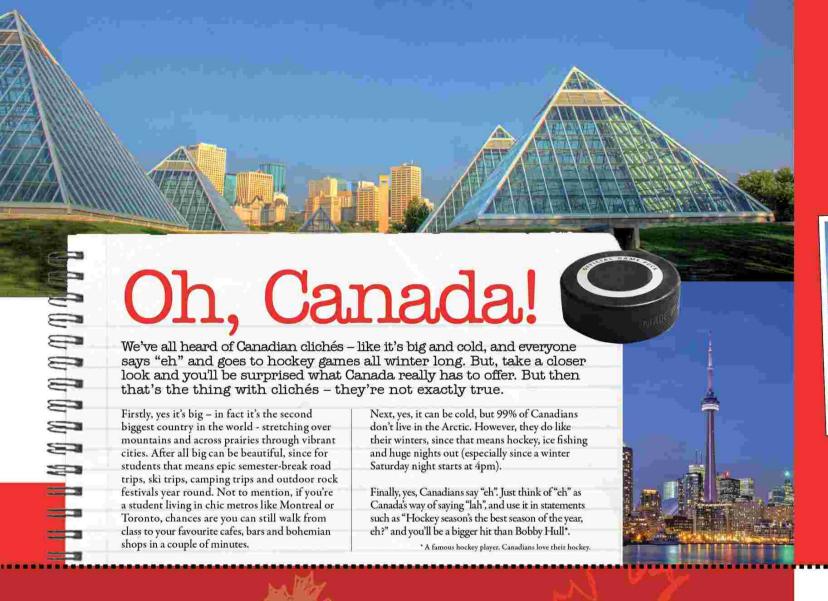
POISON IVY

An arch-nemesis of Batman. An arch-nemesis of Batman,
Poison Ivys morals might be questionable
(she is a villain after all), but when it
comes to her love for plants, she's 100%
mean and green. Vowing to hurt anyone that so
much as tries to harm a mimosa plant, Poison Ivy
is the plant-human hybrid that fights in sustice towards plants with actual plant-based pheromones and poisons. So for anyone who's serious about their botany, think about courses in Plant Biology and Herbology and you could help preserve the earth by defending its greens.

The youngest founding member of the X-Men team, Iceman could be extremely beneficial in



temperatures rising rapidly, the world needs someone to help it keep cool. Having the ability to freeze massive bodies of water means Iceman's able to deal with alobal warming's pressing issue of melting ice caps and glaciers. So if you want to partake in a similar mission and keep the earth from the dire consequences of global warming, choose to study in programmes like 'Atmospheric Sciences' and 'Arctic Geology'.



STUDYING IN CANADA

In all seriousness, Canada offers international students a cost-effective, multi-cultural, Englishbased education system that's home to some of the world's top universities, all in a laid-back and safe setting.



LOCATION, LOCATION, LOCATION

Most major Canadian cities are located in the south, near the US border, meaning students in places like Montreal, Toronto or Vancouver get the best of both worlds including balmy summers, autumn leaves, snowy winters and



Canada's one of the world's most multi-cultural societies, with both English and French widely spoken, not to mention hundreds of other languages. And while any Singaporean can enroll in an English-language course, it also gives you opportunities to practice your French over an authentic poutine*.

* Gravy covered french fries, beloved in Quebec and famous across Canada.



COST-EFFECTIVE

With living expenses ranging from just CAD\$400-800/month and undergraduate course fees starting from CAD\$6,000/year, Canada can be an inexpensive place to study. Not to mention, for that money Canada also offers students one of the highest standards of living, lowest crime rates and most affordable medical systems in the world.

Canada

THE KEY TO YOUR FUTURE

STUDY IN CANADA FAIR IN SINGAPORE

January 13, 2013 10:30 a.m. to 6:00 p.m. Hilton Singapore, Vista 1 & 2, Level 3 581 Orchard Road, Singapore 238883

FREE ADMISSION

ORGANIZED BY: HIGH COMMISSION OF CANADA

For more information please email: spore-td@international.gc.ca

www.educationau-incanada.ca



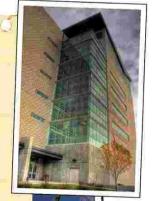


schools worldwide, offering a huge range of specialised programmes. These include:

UNIVERSITY OF ALBERTA

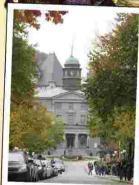
000000000

Situated in Canada's burgeoning oil-sand belt, U of A's programmes in biofuels, clean coal, carbon capture and geothermal power have put it at the cutting edge of alternative energy. Plus, its new state-of-the-art Centennial Centre for Interdisciplinary Science is recognised as one of the world's most advanced undergraduate research facilities. Combine that with thousands of international students from over 140 countries, and U of A makes a strong alternative to major metropolitan universities.



MCGILL UNIVERSITY

Located in multi-cultural Montreal, McGill is Canada's top school in fields like medicine and information technology, with a long history of innovative alums, from the inventor of basketball to the creator of the first internet search engine. Canada's most "international" student body, McGill is globally recognised for its research programmes, but also boasts top music and arts faculties.



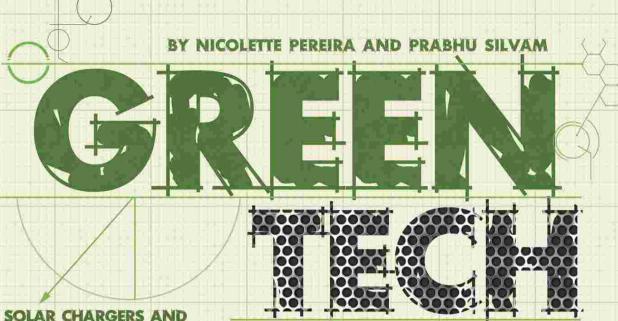


UNIVERSITY OF TORONTO

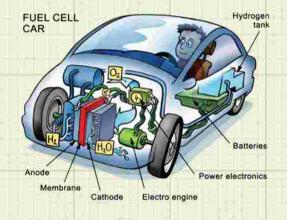
Regularly ranked among the world's top schools in most major surveys, UT offers over 700 undergrad disciplines. Home to North America's third largest library, UT is also big on research, with the electronmicroscope and insulin among its inventions. Its list of extracurricular activities (clubs, Greek societies, sports) make it one of Canada's most







ECO-CERTIFIED BUILDINGS MAY HAVE PAVED THEIR WAY INTO POPULARITY IN SINGAPORE, BUT HERE ARE SOME OTHER GREEN TECHNOLOGIES FROM AROUND THE WORLD THAT COULD MAKE THEIR WAY INTO OUR DAILY LIVES AND IMPACT US IN A BIG WAY.



YOUR WALK

CHARGING

Imagine if we could harness energy from walking – and we're not talking deliberate attempts to create power by forcing people to walk furiously.



The Pavegan Slab could be the next big thing that harnesses energy without us thinking twice about it. Simply by treading on a slab, the surface generates electricity, using 5% of the energy generated to illuminate the tile itself. The rest is either stored in a battery or used to power the surrounding area. More work is being done to develop this into a viable proposition, so it may not be so far fetched to imagine going shopping and actually generating electricity for your favourite mall.

AIRY FAIRY

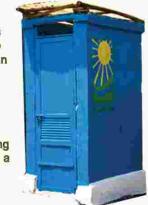
Liquid air is derived from liquid nitrogen from stored air. When gathered in large amounts, it's capable of powering generators and even jet planes and yet produces zero emissions; at an energy production rate of 70%, it could put regular energy providers to shame.

Currently, the only liquid air machines available to the public are hydrogen-powered cars, manufactured by companies like Honda and Toyota. Run by using fuel cells which convert hydrogen into electricity, these cars give off only heat and water as byproducts. Hydrogen cars have the potential to be very fuel-efficient; however, there are still a lot of problems that need to be overcome before hydrogen really makes a difference to our environment.

M IS FOR METHANE

You are what you eat. In this case, you are what you heat too. A fool-proof way of heating homes comes in the form of biodigester toilets which help extract methane gas from

human compost to help supply heat, electricity and fuel. Long employed in rural villages across the globe, biodigester toilets are slowly finding their way into urban homes because of their cost-saving and energy efficient ways, much to the dismay of energy companies. Cited as an effortless way to going green, biodigester toilets require nothing more than human excrement and a simple toilet mechanism to function.





PEDAL TO THE METAL

Contaminated water is a common problem facing people living in rural areas. While complex technology-driven systems presented the solution of clear distilled water to these areas, there was one problem: the cost for the villagers upkeep these machines.

The solution? A simple pedal-powered water purification system that only requires a bicycle, two filters and some pipes, making it sustainable for those living in rural areas. Pedaling the bicycle pumps water from a storage tank through the filters and into a clean tank, and one hour of pedalling will result in 800 litres of clean water, which is enough to meet the needs of a family of four for a week.



THE POWER OF STEAM

People are always talking about renewable energy resources, where a constant source of power can not only power a city of one million people, but also never run out.

Geothermal energy could be the answer – while it has long since been harnessed by Iceland, the dormant Newberry volcano (in Oregon, USA) is a pilot site for exploring volcanoes as a route to geothermal energy. All that is necessary is the drilling of wells into the volcano to harness the energy potential. The best part is that in addition to being a power source that never runs out, no hydrocarbons are burned while utilising geothermal energy, meaning no emissions.

PEDALING FOR POWER

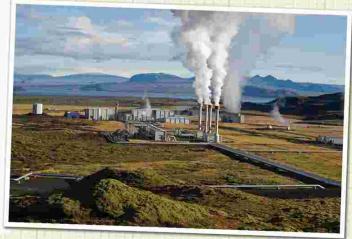
Did you know that you can generate electricity to power small appliances just by utilising your bicycle? The pedal-powered generator generates energy from your pedalling action, converting it to 60-300 watts of energy which is typically stored in a 12V battery.

There are several versions of this bike-powered generator, which generally resemble a bike mount (that you attach your bike to) connected to a battery pack. From the pack, you can plug in and power a variety of appliances, ranging from your mobile phone to a TV. Depending on the manufacturer, an hour of pedalling typically produces enough energy to power a laptop for 1-2 hours and a 19" LCD TV for under 2 hours.



THERE'S NO REASON NOT TO WALK WITH THESE!

We use shoes everyday to go about our daily lives. After all, shoes are meant to protect our feet or give us height. These days, shoes can also be used to produce power. A professor at Louisiana Tech University has designed a shoe which contains a small generator in its sole. As the wearer moves, the movement generates a piezoelectric charge which is then converted into electricity. This can be used to charge batteries or power electronics in real time. Further research is underway to create clean, renewable electricity for charging portable devices like mobile phones.



BY MARION ANG CREE MOVEMENTS CHALLENGING CLIMATE CHANGE

You've seen melting glaciers, heard of global warming and experienced rising temperatures. Unless you've been under a rock all this time, you'd know that much of this climate change is caused by human activity; clearly, it's not just about bad weather.

So the environmentalist in you wants to make a change but you don't know where to start? Show your support for this beautiful planet by taking small steps to a big change with these events.

WORLD WATER DAY -16 MARCH 2013 (SINGAPORE)

An initiative by the United Nations Conference on Environment and Development (UNCED), this day is focused on the importance of water and advocating sustainable water resources in the world. Water Cooperation was the main theme for World Water Day 2012, with an aim to increase access to water in rural areas. The annual Singapore International Water Festival (www.siwf.sg) also stages performances, water sport competitions, raft competitions, kite-making booths and fun games, where the aim of the day is to teach the public about the importance of water and conserving the environment. If you're curious about where our water sources come from, you can learn about our water filtration and water sustainability at the Marina Barrage. In addition, participants can also take part in learning trails, photo competitions, and kayaking at the various

reservoirs across Singapore.

Water Cooperation

EARTH HOUR -23 MARCH 2013, 8.30PM

Earth Hour began in 2007 in Sydney, Australia, with 2.2 million individuals and 2,000 businesses participating to switch off their lights for one hour as an act to show their awareness of the impact of climate change. Energy from electricity is one of the causes of greenhouse gases that affects global warming. This event soon spread across the world and become a global event in over 152 countries. Even 2 icons of illumination - the Las Vegas Strip and the Eiffel Tower - switched off their famous lights for an hour. You can also be a part of Earth Hour in Singapore - simply turn off the power, and enjoy the blissful silence of the night!

WHAT ON EARTH IS HAPPENING?

There has been a pattern of increasing temperatures over the past century – also known as the 'greenhouse effect' – due to the rise of greenhouse gases. They come from the burning of fossil fuels in cars, industrial sites and landfills, to name a few, all of which emit large amounts of CO2 and other harmful gases leading to global warming.

With higher temperatures, we have warmer waters and rising sea levels; on the other hand, it also brings about more evaporation – the cause of droughts and wildfires. However, this vicious cycle is not slowing down, as temperatures reached a record high in 2011 despite efforts to cut emissions through the Kyoto Protocol (which expires by the end of 2012).



Over 175 countries across the world observe this special day dedicated to our planet. It is a day to appreciate our environment, display awareness of environment issues and spread the word on how important it is to save our Earth. You can do your part by making small changes to your lifestyle, such as recycling materials, saving water in your home and switching off the power source when you're done using it.

INTERNATIONAL COASTAL CLEAN UP – 15 SEPTEMBER 2013

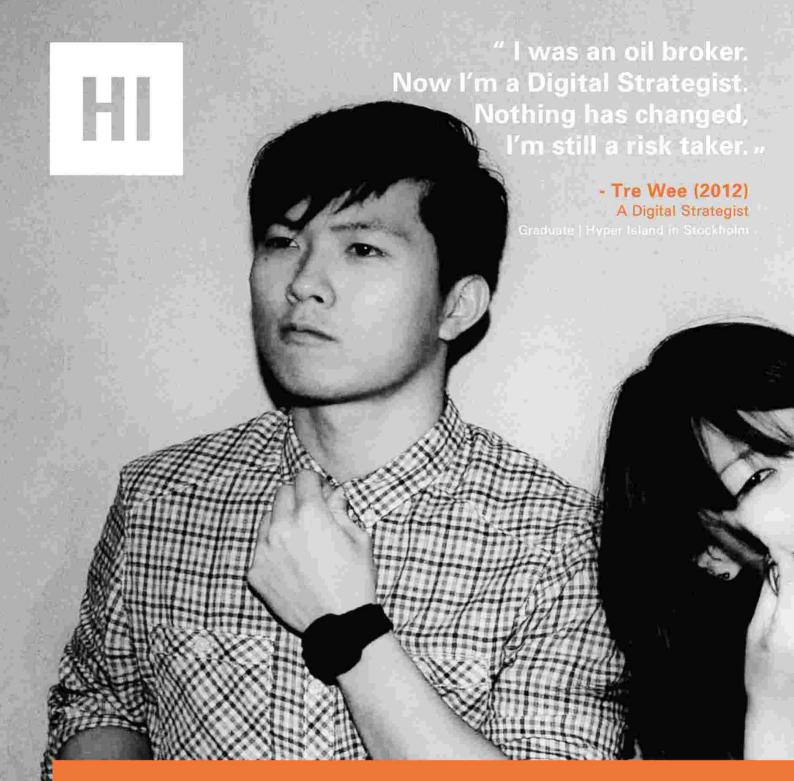
Conducted in over 70 countries, Singapore's International Coastal Cleanup (ICC) is one of our largest environmental conservation programmes with the aim to clear our waterways and beaches from debris. By educating the public on the importance of marine life and the aquatic environment, this exercise helps to keep our coasts clean and safe for sea creatures and in turn, the public - to enjoy. Launched in 1992, the event today sees an average of 1,500 volunteers who gather annually to pick up litter at the beaches and mangroves across Singapore. You can also do your part by teaming up with your friends to help clean up our beaches.



Perhaps the oldest of green campaigns, Arbour Day started way back in 1872 to counter the rapid deforestation in the USA. In the wake of climate change, the movement soon spread worldwide, reaching Singapore by 7 November 1971. Today, over 36 countries celebrate their version of Tree Planting or Arbour Day, with dates that coincide with their planting season. In Singapore, the annual Tree Planting Day happens every November.

CLEAN AND GREEN SINGAPORE

This campaign – which kicked off earlier in November – aims to inspire Singaporeans to care for the environment and to adopt an eco-friendly lifestyle. Carnivals with games and workshops are organised to reach out to neighbourhoods and educate the public about the importance of going green. No matter how small, everything we do impacts the environment; for example, one recycled plastic bottle would save enough energy to power a 60-watt light bulb for 3 hours, so small acts play a big part. To start with, you can follow the 'upcycling' trend, which reuses old materials to make new things, like using soup cans as pen holders or used containers as plant pots.



Here is your chance to UP YOUR GAME.

Our Specialist Diploma Interactive Art Director programme will help you sharpen your skills and challenge you to solve real world problems in a cutting edge digital environment.

Tomorrow's leaders will be those who embrace change, adapt swiftly to new paradigms and lead by action. Hyper Island inspires, equips and supports you in reaching your full potential as a creative and as a leader.

Currently accepting applications with only 25 places available. Programme starting March 2013

Apply now and LEAD THE CHANGE.

hyperisland.com/singapore