

Cover Story

Environmental and Climate Change

12 Global Climate Change and Atmospheric Particulates

Greenhouse gases are not the only anthropogenic causes of climate change.

15 Measuring Emissions of Greenhouse Gases and Air Pollutants in Cities

NUS researchers use new techniques to measure emissions of greenhouse gases and air pollutants from all types of sources in urban neighbourhoods.

18 The Urban Heat Effect

NUS researchers measure, assess and mitigate heat in cities.

20 Cooling the Urban Tropics

As tropical cities expand rapidly, more urban dwellers are subjected to the negative climatic consequences of haphazard urbanization. The good news is possibilities to mitigate urban warming can be found within the urban form itself.

23 Living in the Anthropocene

Solving the global sustainability crisis: the role of sustainable biofuels.

26 Singapore's Climate Change Policy and Carbon Emissions

Is Singapore part of the problem, or can it be part of the solution?

30 Climate Change Must be Tackled Within the Framework of Sustainability

Nobel laureate Al Gore did a wonderful job bringing the issue of climate change and global warming to the world's attention. As policymakers and academics are coming to realise, mitigating climate change takes more than just cutting carbon dioxide emission.

33 Effective Water Governance and Development: Asia's Critical Challenges

The solution to water access problems in the region is a combination of policy reform and technology solutions – one will not be effective without the other.

35 CENSAM and Singapore's Environment

An international research programme seeks to understand interactions between Singapore and the surrounding environment.

40 Studying Environment and Climate Matters at NUS

NUS helps combat the multi-faceted and integrative challenges of climate change by nurturing students in its cross-disciplinary programmes.



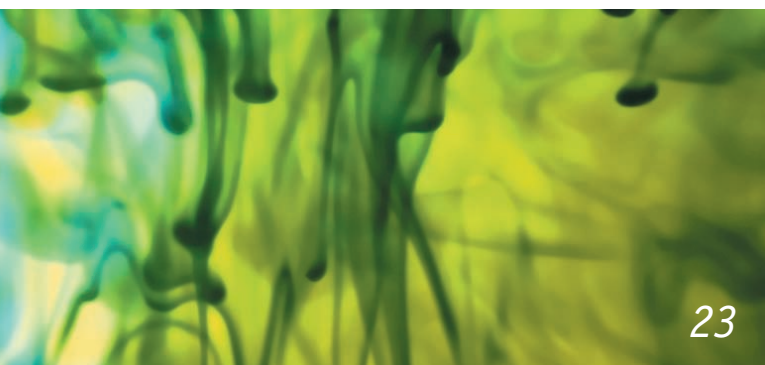
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46 Ensuring Water Quality

Let the fishes tell you if your water is safe.

48 Energy Harvesting Without Batteries

The world now has solar panels which power street lamps and bicycle dynamos that power lights. With more innovations harvesting energy for such purposes, batteries may soon become a thing of the past.



50 Nature's Wonder – Spider Silk

The world now has solar panels which power street lamps and bicycle dynamos that power lights. With more innovations harvesting energy for such purposes, batteries may soon become a thing of the past.

**52 The Brain and Complex Decisions**

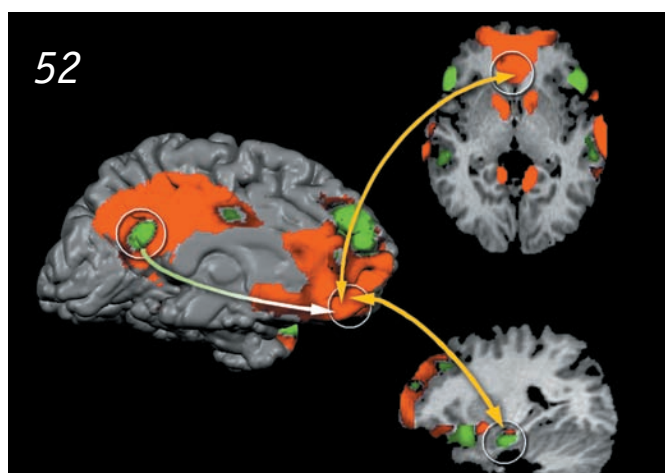
NUS researchers investigate the processes our brain goes through when we make complex decisions.

54 The F₁ Solution to the Global Food Crisis

High-yielding F₁ hybrid oil palm varieties will help to mitigate world hunger and environment woes.

57 Innovation Strategies for Small and Medium-Sized Enterprises

In order for SMEs to survive, a fundamental objective is to get rid of the idea that only large organisations are capable of carrying innovative activities.

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