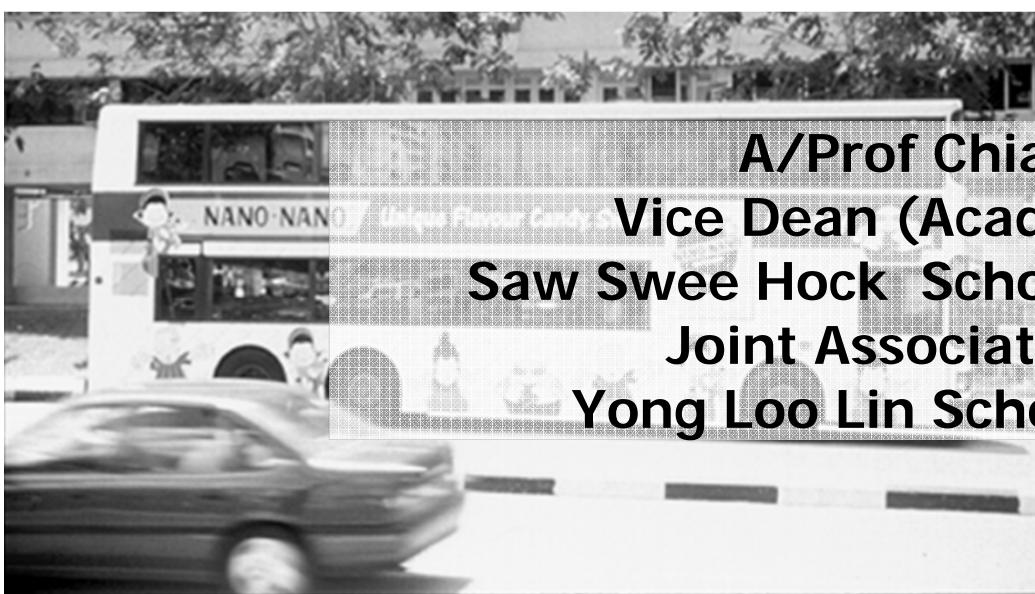




Work & Health And Health & Work



**A/Prof Chia Sin Eng
Vice Dean (Academic Affairs)
Saw Swee Hock School of Public Health
Joint Associate Professor
Yong Loo Lin School of Medicine**

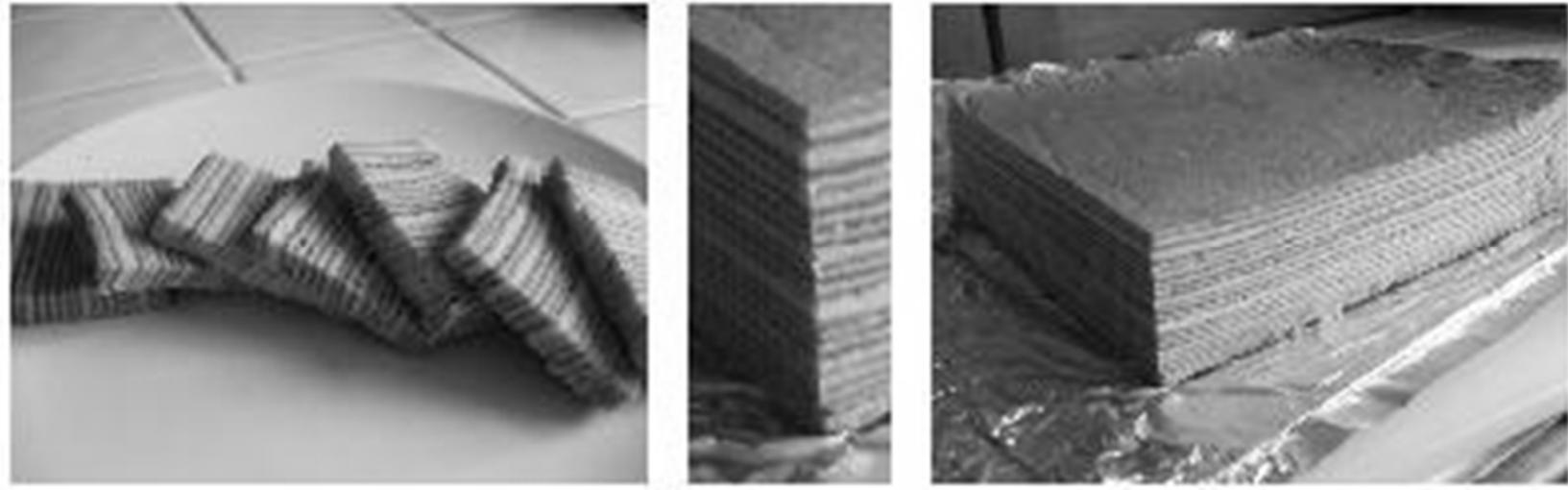
Undergraduate Student Exchange Programme



Risk Assessment & Management

Community projects – local / overseas

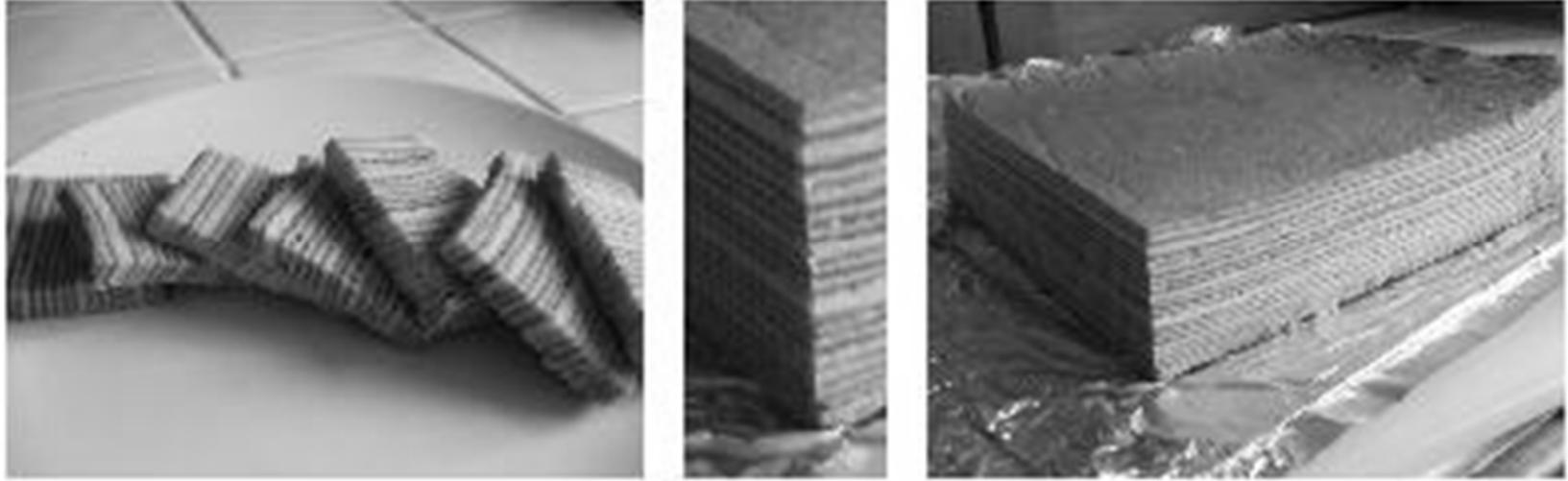




We

teach

by layering



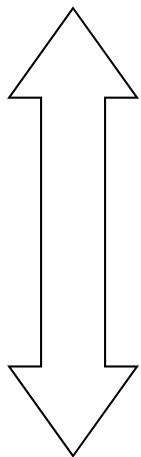
Likewise

You should

Learn by layering

understand the
relationship between
work and health

WORK



HEALTH

**YOUR WORK
CAN AFFECT
YOUR HEALTH**

**YOUR HEALTH
CAN AFFECT
YOUR WORK**

YOUR WORK CAN AFFECT YOUR HEALTH

- Accidents and injuries
- Obvious diseases
- Hidden diseases
- Incurable diseases

YOUR WORK CAN AFFECT YOUR HEALTH

- Accidents and injuries
- Obvious diseases

YOUR WORK CAN AFFECT YOUR HEALTH

- Accidents and injuries
- Obvious diseases
- Hidden diseases

People who lives in the building falls sick
Poorly maintained buildings



Sick Building Syndrome!

work cannot be solely blamed for stress



Mental Stress



...AND YOU THINK YOU HAVE STRESS..

YOUR WORK CAN AFFECT YOUR HEALTH

- Accidents and injuries
- Obvious diseases
- Hidden diseases
- Incurable diseases

YOUR HEALTH CAN AFFECT YOUR WORK

- Decrease productivity
- Danger to self
- Danger to others / community

YOUR HEALTH CAN AFFECT YOUR WORK

- Decrease productivity

YOUR HEALTH CAN AFFECT YOUR WORK

- Decrease productivity
- Danger to self

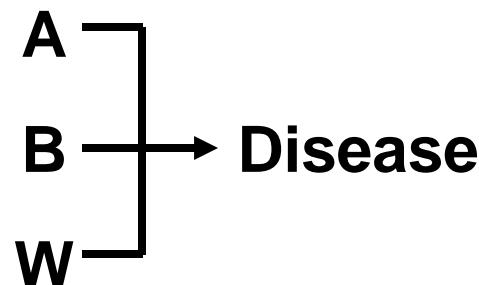
YOUR HEALTH CAN AFFECT YOUR WORK

- Decrease productivity
- Danger to self
- Danger to others / community

DISEASES AMONG WORKING POPULATION

OCCUPATIONAL DISEASES

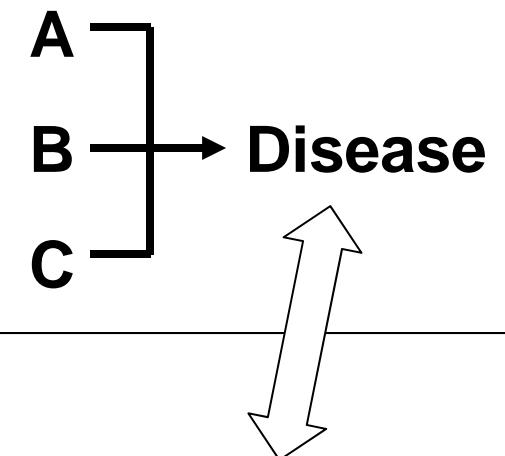
W → Disease



Work contribute to the disease

WORK-RELATED DISEASES

GENERAL DISEASES



WORK

Work do not affect the disease but disease affect the work

WHAT IS OCCUPATIONAL HEALTH?

WORK - HEALTH

- identify potential dangers and hazards at the workplace
- prevent diseases and injuries
- promote healthy and productivity workforce

HAZARDOUS FACTORS AT THE WORKPLACE

- Physical
- Chemical
- Biological
- Ergonomic
- Psychosocial

HAZARDOUS FACTORS

SAFETY

How many violations of Safety Standards can you find ?



HAZARDOUS FACTORS

PHYSICAL



One quarter of Israeli teens are at risk of developing hearing loss due to frequent use of personal music players at high volume, according to a recent Tel Aviv University study.

Haaretz News 14 Dec 2011

Construction worker dies from heatstroke

A construction worker collapsed and died in April 2009, only two days after he arrived here from China to work.

Mr Tian Wei, of Liaoning in north-eastern China where the average temperature is between 6° and 11°C, succumbed to heatstroke after working in the sun for five hours in a yard in Kranji Loop.

not acclimatised to hot weather

HAZARDOUS FACTORS

CHEMICAL

3 killed by toxic fumes: Director and firm fined for safety lapses

**Workers sent to work
without safety gear in
rush to finish painting**

BY KHUSHWANT SINGH

A CONSTRUCTION company director was fined \$100,000 and his company a further \$200,000 yesterday for contravening safety rules, which contributed to the death of three Thai workers two years ago.

The incident took place on the fourth day of Chinese New Year, on Feb 12, 2005. Rushing to complete a project, sub-contractor Rynamo Building Services assigned five workers to spray-paint a culvert under a bridge on Choa Chu Kang Way.

Three of the Thai employees who were put to work without safety gear - Thongchai Haraphaee, 35; Samai Seeliamngam, 28; and Khunthiang Duangthepchan, 39 - died from toxic fumes emitted by the paint and thinner.

Staff of main contractor Or Kim Peow Contractors (OKP)

were on leave that day and unaware Rynamo employees were working.

Rynamo director, 45-year-old Raymond Tan Chee Choon, was fined \$100,000 by a district court. His firm was also fined \$100,000 for not ensuring adequate ventilation at the worksite and another \$100,000 for failing to provide respirators to its workers. The maximum fine is \$200,000 for each offence.

OKP, meanwhile, was fined \$15,000 for allowing soil to pile up at the entrance to the culvert and failing to provide safe access to it. It could have been fined a maximum \$20,000.

District Judge Chia Wee Kiat said: "This is a very sad and tragic case with horrendous circumstances. Three lives were lost and their families altered forever."

The court had heard that OKP was widening Choa Chu Kang Way and had engaged Rynamo to paint the culverts. Eight culverts had already been finished.

Workers had complained of breathing difficulties two weeks before Mr Samai and another worker, Mr Amaul Wongiaroen, went to paint the last culvert at



"The apathy towards safe

DISTRICT JUDGE CHIA WEI KIAT, on
without safety gear, led them to the leat



FINED: Tan (above) was fined \$100,000 while his firm Rynamo was fined \$200,000 for offences.

COMMENTARY

Safe handling of nanotechnology

The pursuit of responsible nanotechnologies can be tackled through a series of grand challenges, argue Andrew D. Maynard and his co-authors.

When the physicist and Nobel laureate Richard Feynman challenged the science community to think small in his 1959 lecture 'There's Plenty of Room at the Bottom', he planted the seeds of a new era in science and technology. Nanotechnology, which is about controlling matter at near-atomic scales to produce unique or enhanced materials, products and devices, is now maturing rapidly with more than 300 claimed nanotechnology products already on the market¹. Yet concerns have been raised that the very properties of nanostructured materials that make them so attractive could potentially lead to unforeseen health or environmental hazards².

The spectre of possible harm — whether real or imagined — is threatening to slow the development of nanotechnology unless sound, independent and authoritative information is developed on what the risks are, and how to avoid them³. In what may be unprecedented pre-emptive action in the face of a new tech-



D. RAMSEY

Potential health risks from exposure to engineered nanomaterials must be understood and minimized.

HAZARDOUS FACTORS

BIOLOGICAL

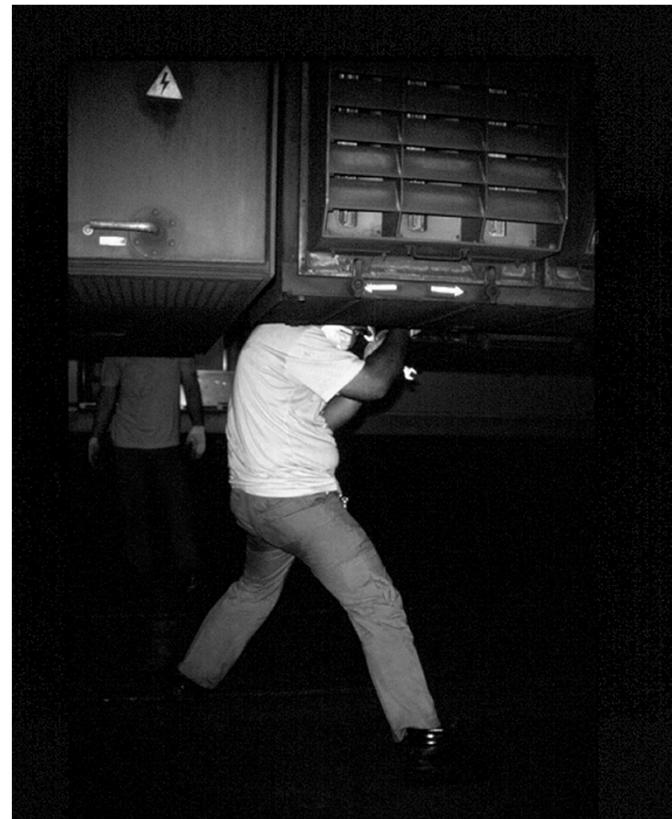
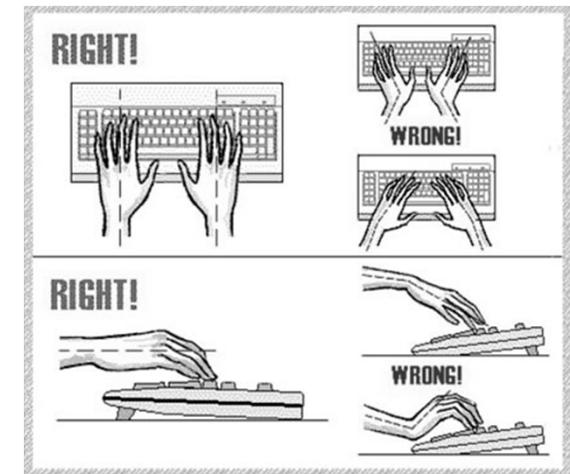
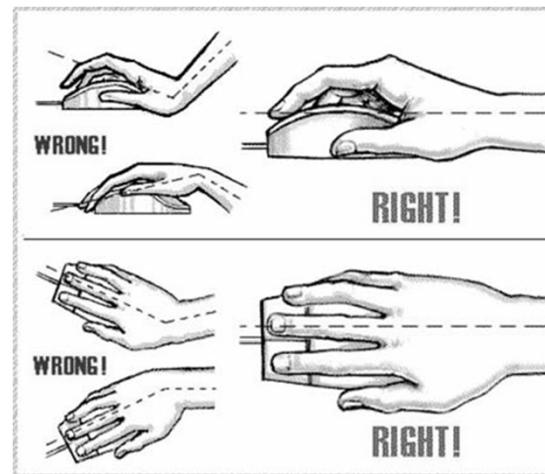
Rojak poisoning: 146 cases reported



Source: AsiaOne Thu, Apr 09, 2009

HAZARDOUS FACTORS

ERGONOMIC



HAZARDOUS FACTORS

PSYCHOSOCIAL

WoRk StRessors

- Retraining
- Reorganisation
- Reengineering
- Retrenchment
- Regionalization
- Relocation
- Recessions

Occupational Health

Involves disciplines such as:

Toxicology

Psychology

Chemistry

Hygiene

Physiology

Physics

Engineering

Ergonomics

Statistics

Medicine

Epidemiology

Nursing

Safety

Anthropometry

Etc...

**Risk
Assessment
&
Risk
Management**

Take home message

WORK  **HEALTH & DISEASES**

WORK
CAN
AFFECT
HEALTH

HEALTH
CAN
AFFECT
WORK



**Thank
You**

ephcse@nus.edu.sg