

Welcome to the major of

# Environmental Science

**6901 Bachelor of Science**

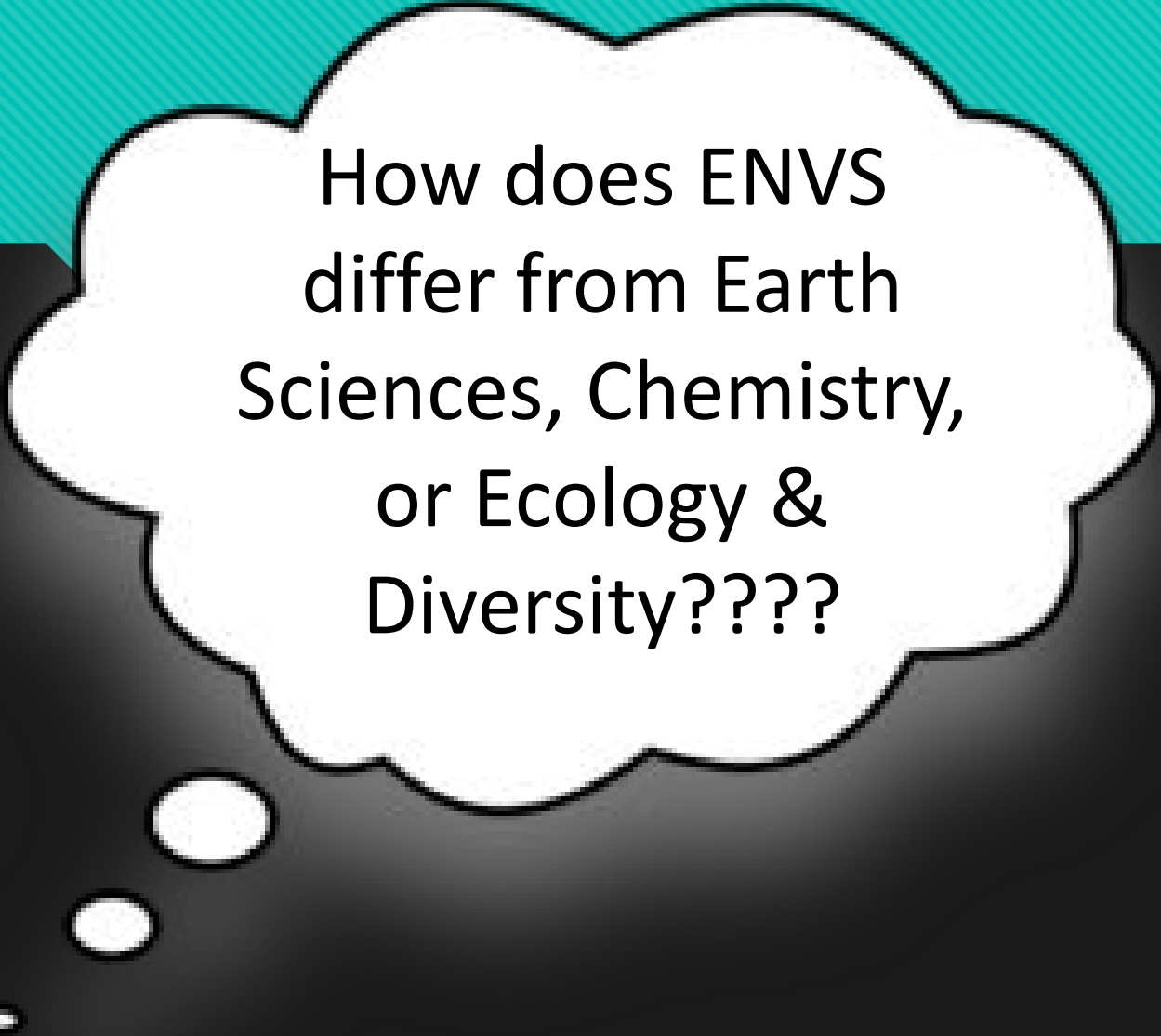




# What is Environmental Science?

An interdisciplinary approach to studying environmental problems relevant to everyday life:





How does ENVS  
differ from Earth  
Sciences, Chemistry,  
or Ecology &  
Diversity????



# Why study ENVS in Hong Kong?



## Coughing much? Hong Kong suffers bigger rise in poisonous ozone pollution than industrial Guangdong

But environmental campaigners say pollution cannot be solely blamed on mainland sources

## Rubbish effort: Hong Kong environment bureau slammed for slow work on food waste disposal

Audit Commission calls for more timely action as landfills face increased pressure  
Hong Kong's potable water evaporate per year, green group says

## Country park living: Build homes on 'low eco value' Hong Kong parks, suggests Chief Executive CY Leung

Chief executive's comments come a day after major think tank makes the same suggestion

Despite more than 1,000 counted on sale, no imports of the fish took place last year according to official records, exposing extent of illegal trade



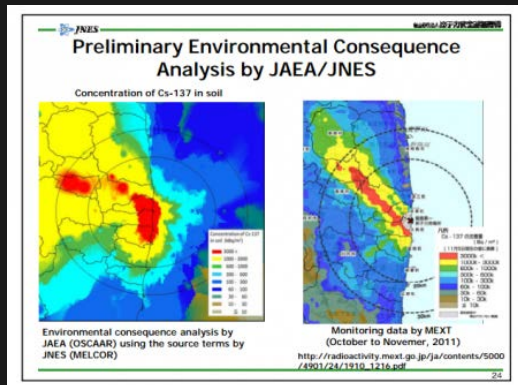
# What do Environmental Scientists do?



**Collect environmental data**



**Analyze data**



**Report scientific and technical information**



**Environmental permits & licenses**  
**Review environmental policies**  
**Advise companies on environmental practice**



# Career Prospects

U.S. Bureau of Labor Statistics (BLS) -  
Environmental Science jobs  
will grow by 25% in the next decade!



- \* Environmental consultant
- \* Financial analyst
- \* Environmental laboratories
- \* Environmental professional
- \* Academic research
- \* Education/outreach
- \* Environmental chemist
- \* Conservation Organization
- \* Alternative technology
- \* Planning

# Recently hired graduates:

- Government (EPD/AFCD)
- NGOs
- Private companies
- Academic Research
- Conservation & Sustainability
- Environmental Consultants



**Agriculture, Fisheries and Conservation Department**  
The Government of the Hong Kong Special Administrative Region



**Environmental Protection Department**  
The Government of the Hong Kong  
Special Administrative Region



**THE HONGKONG AND SHANGHAI HOTELS, LIMITED**  
香港上海大酒店有限公司

**ARUP**

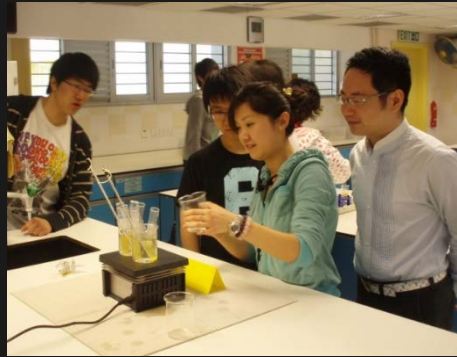
**M M**  
MOTT  
MACDONALD

**AECOM**



# Environmental Science @ HKU

- A broad-based education
  - Emphasis on natural sciences
  - Practical field skills
  - Important analytical skills
  - Communication skills
- Ability to solve problems
  - Intellectual curiosity
  - Critical thinking
  - Multiple perspectives



# ENVS Faculty – Biological Sciences



Dr Dingle  
Major Coordinator



Dr Baker  
Coral reef biology



Dr Bonebrake  
Climate change;  
urbanization



Dr Yasuhara  
Paleoclimate: marine  
ecosystems



Dr Gu  
Environmental Toxicology  
+ Microbiology



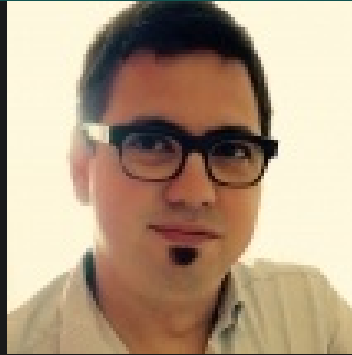
Dr Thiyagarajan  
Environmental Life  
Science



# ENVS Faculty – Earth Sciences, Chemistry, Physics & Social Science



Dr Not  
Climate change,  
Plastic Pollution



Dr Thibodeau  
Geochemistry,  
Pollution



Dr Liu  
Climate change



Professor Zong  
Climate change



Dr Chan (Chemistry)  
Environmental chemistry



Professor Djurišić (Physics)  
Sustainable Energy



Dr Mumby (SBS/Social Science)  
Environmental Policy

# Introductory level courses (48 credits)

## Science Foundation Courses (12 credits)

- \* Scientific Methods and Reasoning
- \* Fundamentals of Modern Science

## ENVS Core Courses (18 credits)

- \* Introduction to Environmental Science
- \* Environmental Field and Lab Course
- \* Environmental Data Analysis
- \* General Chemistry I

## ENVS Elective courses (12 credits)

- Ecology (Environmental Life Science, Ecology and Evolution)
- Earth Science (Blue Planet, Introduction to Climate Change)



# Advanced level courses (42 credits)

**\*ENVS3004 *Environment, society and economics***

Plus at least 36 credits of other electives



Climate Change



Urban Ecology



Pollution

3 suggested pathways

# Capstone Requirement – Final year (6 credits)



Environmental Science Project



Directed Studies in Environmental Science



Environmental Science Internship



# Experiential learning: Internships



Ocean Park: *Environmental Education*

Mott-MacDonald:

*Environmental Impact Assessment*

United States Geological Survey:

*Property and Environment Research Center*

WWF HK:

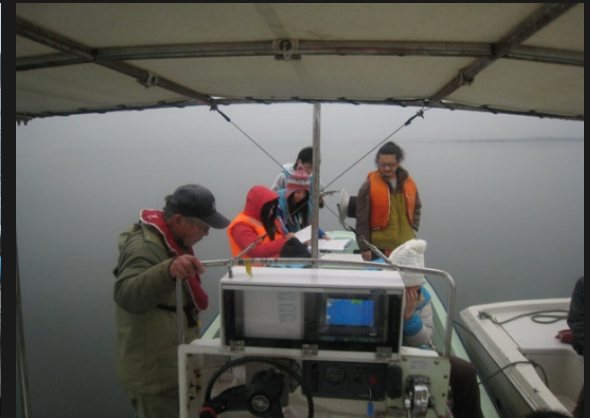
*Low-carbon Office Operation Program*

EPD, AFCD, CLP, HK Observatory



# Experiential learning: field courses

- Environmental Science in Practice (Japan)
- Environmental Field/Lab Methods (Local)
- Extra-curricular trips: (Shanghai)





# Undergraduate Environmental Science Research Published in Peer-reviewed Journal

An ambitious group of undergraduate students in the Environmental Field and Lab course examined the water quality of Hong Kong's swimming beaches with international standards established by the WHO, and their findings were

Hear from our Students



## ARTICLE IN PRESS

MPB-07322; No of Pages 8

Marine Pollution Bulletin xxx (2015) xxx–xxx



ELSEVIER

Contents lists available at ScienceDirect

### Marine Pollution Bulletin

journal homepage: [www.elsevier.com/locate/marpolbul](http://www.elsevier.com/locate/marpolbul)



## To swim or not to swim? A disagreement between microbial indicators on beach water quality assessment in Hong Kong

Pui Kwan Cheung, Ka Lai Yuen, Ping Fai Li, Wai Hing Lau, Chung Man Chiu, Suet Wai Yuen, David M. Baker \*

Faculty of Science, the University of Hong Kong, Hong Kong Special Administrative Region

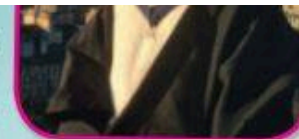


▲ Students collecting beach water sample.

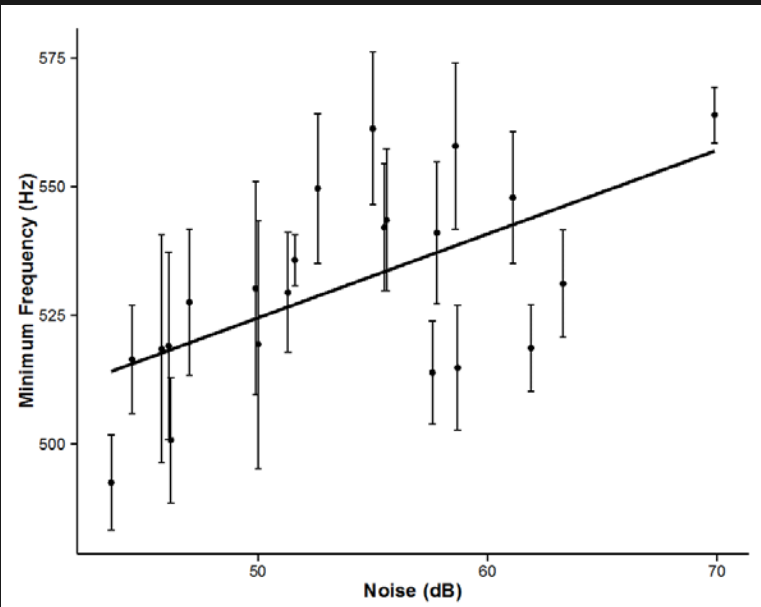
### Greenwoods, HKUSU

*"Publishing the results of an undergraduate research project in a scientific journal was an achievement that I've never thought of! It was indeed a long and difficult journey which would never be completed without the concerted effort by our group members and the support from our supervisor Dr Baker. I*

*believe all the passion that I have in Environmental Science stems from my desire to protect the natural environment. Studying Environmental Science at HKU was the best decision I've ever made in my life. Few things in life are happier than devoting yourself in a subject and a career that you love. Environmental Science didn't make me a fortune, but it made every day of my university life a happy day, and most importantly it made me realise the importance of having the courage to choose a subject that you love, instead of a subject that the society loves."*



# Summer Research Fellowship: Noise Annoys



Behavioural Processes 129 (2016) 80–93



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Contents lists available at ScienceDirect

Behavioural Processes

journal homepage: [www.elsevier.com/locate/behavproc](http://www.elsevier.com/locate/behavproc)

Low frequency dove coos vary across noise gradients in an urbanized environment

Fengyi Guo<sup>a,b</sup>, Timothy C. Bonebrake<sup>a,b</sup>, Caroline Dingle<sup>b,\*</sup>

<sup>a</sup> School of Biological Sciences, University of Hong Kong, Hong Kong

<sup>b</sup> Department of Earth Sciences, University of Hong Kong, Hong Kong

# ENVS Minor – 7 courses (42 credits)

- Introductory courses (3 courses)
  - ✱ ENVS1401 Introduction to Environmental Science
  - ✱ 2 electives
- Advanced courses (4 courses)
  - ✱ ENVS3004 Environment Society and Economics
  - ✱ 3 electives





# Additional Support

- Skills training sessions
- Advice and mentoring
- “HKU Environmental Science Program”



## ○ ENVS Society



○ [envshku.wix.com/senvs](http://envshku.wix.com/senvs)

○ “The Society of Environmental Science” (FB)

# Student Peer Advisers in 2018-19

## ○ General roles

- to **offer advice** in relation to academic studies to freshmen; and
- to **facilitate** freshmen's **smooth transition** from secondary to university education



- You are highly encouraged to contact the following **Student Peer Advisers (SPAs)** if you have any questions about your study (their contacts can be found at the Faculty's website)
  - Mr CHAN Yuk Chuen (BSc Year 4)
  - Miss SIU Wing Man (BSc Year 3)

# Environmental Science

## 6901 Bachelor of Science

Any Questions?

Contact: Dr Caroline Dingle  
[cdingle@hku.hk](mailto:cdingle@hku.hk)

