



Master of Science in

# ENVIRONMENTAL MANAGEMENT

*Managing environmental issues in multifaceted contexts*

Apply for entry in September 2023

# IS THE PROGRAMME FOR YOU

Why this Programme

The MSc in Environmental Management is an inter-faculty multi-disciplinary coursework programme, with:

- a strong focus on management perspectives surrounding a wide variety of environmental and sustainability issues
- course materials focusing on Hong Kong, yet with a strong international and comparative dimension
- courses taught by a group of internationally-recognised experts, including ecologists, engineers, planners, economists, lawyers, environmentalists from HKU and local practitioners in the field

The programme started in 1989, though its contents have evolved over time, its primary objective of providing a broad, integrated overview remains unchanged

## World-class Rankings of HKU

Quacquarelli Symonds (QS)

**#21** World Rankings 2023

**#3** Asia Rankings 2022

Times Higher Education (THE)

**#30** World Rankings 2022

**#4** Asia Rankings 2022

Eminent Subject Rankings



QS World University Rankings by Subject 2022:

**#31** Environmental Sciences

**#51-100** Earth & Marine Sciences

**#62** Biological Sciences

Top-notch Scientists in the Faculty

Clarivate Analytics' Essential Science Indicators 2021

**18%** of our professoriate staff are the world's Top 1% scholars

- ◇ Provides a comprehensive training in environmental management, addressing major environmental problems in the social, legal and economic contexts
- ◇ Gives a basic introduction to many aspects of environmental science and environmental engineering as well as legal and policy-related concerns



### Tuition fees

Composition fee: HK\$170,000\* (subject to approval)

Students are required to pay Caution Money (HK\$350, refundable on graduation subject to no claims being made) and Graduation Fee (HK\$350)



### Programme duration

Full-time: 1 year

Part-time: 2 years



### Study load

Credits: 60 credits

Learning hours: ~1,200-1,800 hours (including 180-270 hours for project and contact hours of 240-360 hours)



### Class schedule

- Teaching: mainly on weekday evenings (3-4 classes each week)
- Occasional teaching sessions on Saturdays
- There will be field trips in several courses



### Medium of instruction

English



### Assessment

- Written coursework and/or examinations
- A dissertation or project on a topic of the student's choice

\*The fee shall generally be payable in 2 instalments over 1 year for full-time and 4 instalments over 2 years for part-time

Where will this Programme Lead You

## Professional recognition

This programme is accredited for direct application to the Graduate IEMA membership and BEAM Affiliate qualification

## Transferable skills

- ◇ Emphasises on the analysis of environmental and sustainability problems to gain a more adequate understanding of their nature and causes, and the remedial options available to tackle them
- ◇ Offers opportunities for the development of specialist interests and skills through optional courses and research dissertation

## Career development

Over 1,000 graduates of the programme are now pursuing successful careers in government departments, environmental consultancies, NGOs and various industries

## Prizes

Each year Ada and Arthur Hill Prize in Environmental Management and Fred Kan and Co. Prize are awarded to meritorious students. Ada and Arthur Hill Prize in Environmental Management is awarded to the student who has achieved the highest CGPA with grade A in dissertation, while Fred Kan & Co Prize is awarded to the student who has submitted the best dissertation concerning environmental law or environmental policy.



Who should Take this Programme

## Host

### School of Biological Sciences

The School was founded in 2007 following the merger of the Departments of Zoology, Botany, and Ecology & Biodiversity. Our members are committed to undertaking research of the highest standard that will be read, cited and applied by colleagues internationally.

Members of the area of Ecology & Biodiversity place a strong emphasis on studying the effects of environmental change, including:

- Impacts of climate change driven by global warming on terrestrial plants and animals;
- Consequences of global warming and ocean acidification on marine ecosystems;
- Paleocology of biodiversity associated with historical climate change;
- Pollution impacts and the restoration of ecosystems;
- The international wildlife trade; and
- The global homogenisation of biota through human facilitation of invasive species.



Practitioners in relevant disciplines – engineering, ecology, environmental science, education, urban planning, corporate sustainability and journalism, etc.

Fresh graduates and people who intend to pursue a career in environmental management or enhance their understanding of this field



## Hear from our graduate

Laila ALI  
Class of 2022



I am glad that I decided to pursue the MSc in Environmental Management at HKU. The ENVM programme brings together students from diverse backgrounds and explores different areas, from economic, technical and legal aspects to nature-based solutions that are important for preserving the environment and mitigating environmental issues. Thanks to the world-class teaching staff and experienced guest lecturers from the sustainability industry, we were able to get the most out of the course. Due to Covid-19, there were some challenges in achieving the goals of our final project which was about challenging Fast Fashion. However, we received help throughout so that we were able to successfully complete the project and learn a lot in the process. As a non-local from Germany, I quickly felt at home and have not only learnt about the effects of environmental change but also about Hong Kong culture. I am confident that I can use the skills I have learnt to make a difference and create a positive impact.



What the Programme Covers



# WHAT YOU WILL LEARN

## Programme structure

Design of curriculum (part-time)		
Year	Year 1 (30-33 credits)	Year 2 (27-30 credits)
Course		
<b>Core Courses</b>	<p><b>30-33 credits</b></p> <p>ENVM7003 Introduction to ecology (3 credits)</p> <p>ENVM7012 Environmental economics and analysis (3 credits)</p> <p>ENVM7013 Sustainability, society and environmental management (3 credits)</p> <p>ENVM7014 Environmental quality management (6 credits)</p> <p>ENVM7015 Research methods and report writing in environmental management (6 credits)</p> <p>ENVM7016 Environmental policy (3 credits)</p> <p>ENVM7017 Environmental law in Hong Kong (3 credits)</p> <p>Select at least one field study course from the following list:</p> <p>ENVM7018 Environmental field studies (3 credits)</p> <p>ENVM7019 Ecological field studies (3 credits)</p>	<p><b>12-18 credits</b></p> <p>ENVM8004 Dissertation (15 credits) OR</p> <p>ENVM8021 Project (9 credits)</p> <p>ENVM8006 Environmental impact assessment (3 credits)</p>
<b>Elective Courses</b>		<p><b>9-18 credits</b></p> <p>ENVM8003 Conservation biology and management (3 credits)</p> <p>ENVM8011 Environmental auditing and reporting (3 credits)</p> <p>ENVM8012 Environmental health and risk assessment (3 credits)</p> <p>ENVM8013 Air and noise pollution control and management (3 credits)</p> <p>ENVM8014 Special topics in environmental management (3 credits)</p> <p>ENVM8015 Directed studies in environmental management (6 credits)</p> <p>ENVM8016 Conservation and management of freshwater resources (3 credits)</p> <p>ENVM8017 Conservation and management of marine resources (3 credits)</p> <p>ENVM8018 Urban planning and environmental management (3 credits)</p> <p>ENVM8019 Corporate sustainability (3 credits)</p> <p>ENVM8020 Green buildings and energy management (3 credits)</p> <p>ENVM8022 Environmental management internship (6 credits)<sup>2</sup></p>
<b>Total credits</b>	<b>60</b>	

### Remarks:

1. Students in full-time mode will be required to take all the 60 credits in a year
2. ENVM8022 Environmental management internship (6 credits) is only available to full-time students
3. The availability of courses may vary from year to year
4. The programme structure will be reviewed from time to time and is subject to change.

## Core courses

### ENVM7003 Introduction to ecology

This course deals with the ecological processes determining the distribution and abundance of organisms, and which in turn govern the structure and function of communities and ecosystems. It focuses on how an understanding of ecology is important for environmental management and also incorporates a practical fieldwork component.

### ENVM7012 Environmental economics and analysis

This course provides an introduction to economic concepts and principles and applies them to the analysis and management of environmental problems, with an illustration with current environmental and policy issues. Topics include the economic instruments for environmental problems, methods for valuing environmental goods and services, and economic tools for supporting decision-making.

### ENVM7013 Sustainability, society and environmental management

This course explores and analyses the implementation of sustainability principles and concepts at macro- and micro- levels, covering a wide range of issues from international agreements and campaigns to local projects and practice. It uses a number of implementation tools including social innovation, community engagement and sustainability assessment, and concludes with a series of real-life case investigations on innovative models to achieve sustainability in urban and rural contexts.

### ENVM7014 Environmental quality management

This course introduces students to the types, sources and effects of environmental pollution and some of the key principles and strategies used in combating pollution and managing environmental quality. Topics include wastewater and air quality management, solid waste management and noise pollution control, with an emphasis on the situation in Hong Kong.



### ENVM7015 Research methods and report writing in environmental management

This course is intended both as preparation for the dissertation or project courses and as a general introduction to writing reports on environmental issues. Topics include research design, methodology and report writing. Other research skills such as avoiding plagiarism, literature search and review, reporting writing and giving oral presentations are covered.

### ENVM7016 Environmental policy

This course focuses on key aspects of environmental policy making and the policy-implementation processes, such as how policy agendas emerge and evolve, how environmental discourse shapes policy outputs, and how institutions affect the trajectories and outcomes of environmental policy measures. Making references to local, national and international cases, it also examines the theories and praxis of policy transfer and convergence, and the perennial problematics of policy integration, learning and failure.



### ENVM7017 Environmental law in Hong Kong

This course focuses on the statutory interpretation of 4 principal Ordinances, namely Water Pollution Control Ordinance, Air Pollution Control Ordinance, Noise Control Ordinance and Wild Animal Protection Ordinance, and subsidiary legislation dealing with pollution and environmental protection in Hong Kong. Students will study the nature of environmental offences, the principles of Common Law, and the interpretation of relevant case law in order to better understand the current sentencing policies towards environmental offenders.



## ENVM7018 Environmental field studies

This experiential learning course aims to broaden students' horizon and knowledge base on key aspects of environmental management and nature conservation through a series of field studies and visits to local and/or overseas organisations. Topics include conservation and biodiversity management, waste and wastewater treatment processes, water treatment processes, and corporate environmental management in practices. Field studies will be conducted in form of guided visits, field work, service learning and invited lectures or forums. Students are required to attend at least 6 sessions organised over the study period and may need to pay the participation fee of some local and/or non-local activities.



## ENVM7019 Ecological field studies

This experiential learning course aims to teach students with the field survey and study skills in biodiversity assessment such as rapid biodiversity assessment methods through an intensive residential field course and some optional field trips. Students have to conduct hands-on field surveys of common plant and animal groups in Hong Kong such as vascular plants, mammals, birds, amphibians, reptiles and butterflies, and those completing this course shall be able to take part in ecological assessments.

## ENVM8004 Dissertation

The dissertation is an individual, independent research project carried out under the supervision of Faculty member(s). Students may propose their own topics or they may consider those topics suggested by Faculty members. Normally, the student develops the research outline in collaboration with his or her Faculty Advisor(s) and then collects data, carries out analysis and writes the report prior to the research colloquium where the student will present his/her work during the second semester. Substantial work, in particular, data collection and analysis, is required in this course.

## ENVM8006 Environmental impact assessment

Used widely around the world to identify the impacts of development projects as well as strategic plans and policies, Environmental Impact Assessment (EIA) plays a key role in many regulatory systems for the environment. This course reviews the development of different approaches to EIA, basic analytical principles, administrative and legal systems for EIA, assessments at the project and strategic levels, and case study applications in Hong Kong.

## ENVM8021 Project

This is a group project to be carried out under the supervision of one or more teachers. The topic and content of the project will be agreed individually between students and the supervisor(s). Students may propose their own topics and approach potential supervisors, or they may consider those suggested by teachers. Apart from scientific research projects, creative projects such as the production of field guides, books, websites, videos, apps about the environment and action projects are encouraged.

## Elective courses

### ENVM8003 Conservation biology and management

Conservation biology is the essential scientific element in biodiversity conservation. The course covers the basic principles and methods of conservation biology from a management perspective. In reality, successful biodiversity conservation projects often require an integration of the welfare of local communities. As such, practical examples from Hong Kong and elsewhere will be used as case studies to illustrate the importance of different elements in conserving the world's biodiversity.

### ENVM8011 Environmental auditing and reporting

This course provides an introduction to environmental management, auditing and reporting, with elaboration of the development, implementation and continuous improvement of an environmental management system, concerning the ISO 14001:2015 standards. The methodology and skills of environmental audit concerning the ISO 19011:2011 would then be introduced. Process of carbon audit which is becoming important in environmental management by acting as a useful greenhouse gases measuring tool will also be explained. The function and importance of environmental reporting will be explained along with the contents of the Global Reporting Initiative Standards which is a convention guide for sustainability reporting.

## ENVM8012 Environmental health and risk assessment

Environmental Risk Assessments (ERAs) are tools to determine the likelihood that contaminant releases posing risks to human health or the environment. Currently, ERAs are required under various regulations in many developed countries to support decision-makers in risk characterisation or the selection of cost-effective remedial cleanup. This course introduces the theory and practice of human and ecological risk assessments. Students completing the course will understand the concepts and principles of ERAs, risk management and risk communication as applied in practice; be able to select and apply the simpler tools to tackle risk issues; and appreciate the interpretations of risk and its role in environmental policy formulation and decision making.

## ENVM8013 Air and noise pollution control and management

This advanced course focuses on various technical aspects related to air and noise pollution control and their management issues. Topics include micrometeorology; air dispersion modelling; advanced air pollution control (e.g. process modification, energy audit and emission trading); case studies on the control of emissions from stationary and mobile source; the concept of sound propagation; basic principles of noise control; noise impact assessment and technical mitigation measures for construction, industrial, road traffic, railway and aircraft noise.

## ENVM8014 Special topics in environmental management

The course covers hot topics in Hong Kong or overseas that are related to environmental management, and may vary from year to year. Examples of previous topics include urban tree management, slope greening, nature conservation versus development in rural Hong Kong and China, and sustainable development movements, etc. With careful consideration of the diverse needs of various stakeholders, management options are reviewed and evaluated.

## ENVM8015 Directed studies in environmental management

This course provides an opportunity for students to study a topic of particular interest under the supervision of a teacher or an experienced environmental practitioner. The contents of this course will be agreed individually between the student and the supervisor which has to be endorsed by the course coordinator. Directed studies

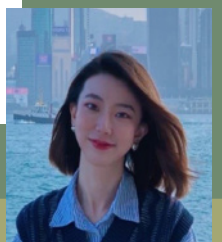
may include traditional research projects generating scientific paper or other study projects with creative outputs in environmental management such as audit reports; booklets; pamphlets; field guides; manuals; teaching modules and so on. The course is designed to allow a flexible approach in fixing the content and output of the directed studies.

## ENVM8016 Conservation and management of freshwater resources

This course offers an introduction to the problems associated with human use of water and current patterns of water resource management. It explains how the characteristics of natural systems constrain sustainable use of water. Emphasis will be placed on examples of river and lake management that can indicate the reasons for success and failure of sustainable water resource use, with particular emphasis placed on regional examples. Students will gain an appreciation of the trade-offs inherent in water resource management, and the practices that can be adopted to conserve freshwater biodiversity in the complex context of maintaining human livelihoods.

## Hear from our graduate

Rachel WANG  
Class of 2022



*The MSc in Environmental Management programme constantly offers students inspirations and opportunities throughout the curriculum. Enrolling this programme as a fresh Bachelor of Social Science graduate, I was eager to discover my potential in the environmental management field. Trained and guided by top experts and distinguished lecturers, not only did I develop academic skills and leadership ability, but I also caught my interest in textile waste management. Through the project supported by our programme, I was grateful to grab the chance and communicate with the top professionals and stakeholders who are highly engaged in this area. By this, I was also able to develop my huge passion for my career. This is a year filled with sweat and tears, but what this programme has taught me would be the brightest memory for me to treasure forever.*





## ENVM8017 Conservation and management of marine resources

The marine environment has been an essential source of its fortunes but today suffers from a range of perturbations, from pollution and habitat destruction, to community loss and over-exploitation. This course primarily deals with pressing issues of marine resource conservation and management in Hong Kong. An overview of the current global situation of marine resources will be presented with an emphasis on the local situation. The past and present exploitation of marine resources and human impacts on the marine ecosystem are addressed with a view to identifying problems and providing practical solutions. Real cases are taken from Hong Kong as an example to illustrate the crisis and its management options. The key topics of this course include marine pollution, habitat destruction, biological invasion, biodiversity conservation, fisheries, mariculture and harmful algal bloom.

## ENVM8018 Urban planning and environmental management

This course lays down the challenges of achieving sustainability in cities. It highlights the important role of urban planning and its related tools and instruments in managing development pressure, mitigating environmental impacts, conserving ecological sensitive areas and achieving the society's overall resilience. The course begins with an introduction to the fundamental functions and processes of planning. Illustrated with real-life case studies, the course then critically reviews the effectiveness of a series of planning tools, such as land use zonings, conservation trusts, partnership schemes, in resolving climate change and sustainability conflicts in both urban and rural contexts. The course adopts the Problem-based Learning approach where students will take lead and debate on selected current environmental affairs such as planning and development on private land with high conservation value, planning for facilities with environmental nuisances, design and planning for inclusive open space and rural revitalisation for sustainable communities.

## ENVM8019 Corporate sustainability

Corporate sustainability focuses on the business sector's role and contribution to achieving sustainability. In recent years, the scope has extended from contributing to the social welfare of society through philanthropic contributions or avoiding environmental degradation to a new business approach that creates long term value for both the business and society as a whole, by their

managing of risks deriving from economic, environmental and social developments, and through the creation of opportunities. The course examines the commonly used tools in corporate sustainability and corporate social responsibility, including reporting, environmental, health & safety, corporate community investment and clean production. It reviews the business relationships with the environment and society expressed in the concepts of sustainable production and consumption. The course also emphasises the importance of learning about current practice in the business sector, and thus guests from corporate sector will be invited to share their experience with students.

## ENVM8020 Green buildings and energy management

One of the ways to tackle global climate change is to significantly enhance energy efficiency especially in buildings. This course will introduce the global trends in the green building movement with focuses on current energy management in new and existing buildings in Hong Kong e.g. BEAM Plus. The course will introduce various aspects of energy efficiency including laws and codes; assessment tools; methods to analyse energy uses in different types of buildings and practical energy conservation measures. Starting from the Academic Year 2020-21, this course is accredited by Hong Kong Green Building Council Limited (HKGBC) and BEAM Society Limited (BSL). Under this accreditation scheme, part of the course contents will be the BEAM Affiliate Training which will be delivered in video format. Also, there will be a BEAM Affiliate examination organised by BSL and arranged by HKU. The student upon passing the examination of the course and completing the MSc(EnvMan) programme will be eligible to register as a BEAM Affiliate at HKGBC.

## ENVM8022 Environmental management internship (For full-time students only)

This course provides an opportunity for students to undertake a placement in environmental management in universities, NGOs or commercial companies under the supervision of an experienced Environmental Practitioner or Faculty member. The student needs to work for at least 160 hours for the internship employer on either the first, second or summer semester. During the internship, the student needs to conduct a desktop study on a topic related to the internship job duties, which should be endorsed by the course coordinator.

More course information at:

<https://www.biosch.hku.hk/envm/structure.html>



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*The encompassing curriculum of the MSc in Environmental Management trains students to be all-rounded environmental managers.*

環境管理理學碩士課程涵蓋範圍廣泛，可培養學生成為全面的環境管理人員。

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## Programme Director

**Dr Billy C H HAU**

BSc, MSc, PhD HK, MHKIQEP, CEMAHK

## Programme Coordinator

**Dr Janet K Y CHAN**

BSc, MSc, PhD HK, MHKIQEP, CEMAHK, SFHEA

## Other Academic Staff

**Dr Margaret J BURNETT**

BA McGill; MA Waterloo; PhD HK

**Dr Winnie W Y LAW**

B Plan, M Plan Auckland, PhD HK, MHKIQEP, CEMAHK, FHEA

**Dr Ian Z LI**

BA RUC; MPA Columbia; PhD Indiana

**Dr Chun-Ho LIU**

BEng, PhD HK

**Dr Theresa Marie LORENZO**

BS Ateneo; MS UNL; PhD Arizona

**Dr V Thiyaga RAJAN**

BSc, MSc, PhD (UNOM)

**Dr Jiyun SONG**

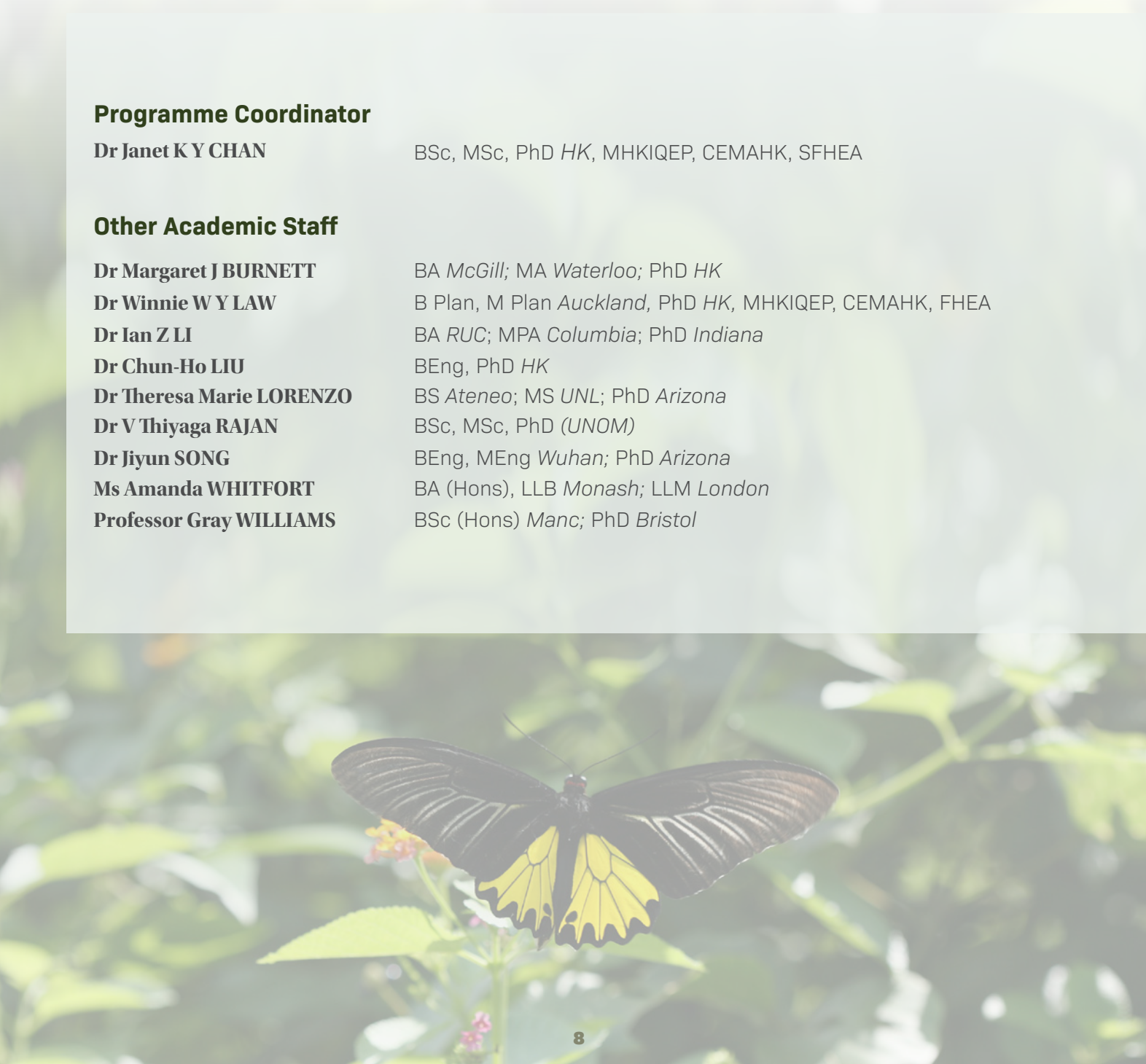
BEng, MEng Wuhan; PhD Arizona

**Ms Amanda WHITFORT**

BA (Hons), LLB Monash; LLM London

**Professor Gray WILLIAMS**

BSc (Hons) Manc; PhD Bristol



## Admissions

### Requirements

- ◇ A Bachelor's degree with honours in any field
- ◇ Work experience is useful but not essential
- ◇ Fulfil the University Entrance Requirements

### How to apply

Application deadlines:

#### Non-local students

Full-time / part-time: **12:00 noon (GMT +8), April 28, 2023**

#### Local students

Full-time / part-time: **12:00 noon (GMT +8), May 31, 2023**

Online application:  
[admissions.hku.hk/tpg/](https://admissions.hku.hk/tpg/)



### Expected graduation time for normal course of studies

Full-time: Winter (November / December 2024)

Part-time: Winter (November / December 2025)

## Further Information

### Programme details



[bit.ly/30na4Kn](https://bit.ly/30na4Kn)



[bit.ly/37p94qJ](https://bit.ly/37p94qJ)

### Support for students



[www.cedars.hku.hk/](https://www.cedars.hku.hk/)

## Enquiries

### School of Biological Sciences

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### Programme Director

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HKU Science 

