



环境科学专业

BSc in Environmental Science



Part 1 About Environmental Science Programme

Part 2 Who we are?

Part 3 What do we learn?

Part 4 Student style

Part 5 Graduation prospect



PART ONE

01

About Environmental Science Programme

- **Focuses:**
 - **How nature works**
 - How people are **connected** to the environment
 - How to **prevent** environmental degradation
 - How to **restore** damaged environments



- Scope of Studies:
 - Regional and Global
 - An **interdisciplinary** subject, including sciences subjects (such as biology, chemistry, statistics, mathematics, physics, etc.), social sciences, and business management subjects.
 - Develop skills of **environmental management and technologies**.



Programme Features

- Cultivate comprehensive talents with an environmental mission and a global perspective.
- The student achieves a balanced development in both environmental management and technology.
- BNBU is located in Zhuhai City, which is part of the Guangdong-Hong Kong-Macao Greater Bay Area. It is surrounded by a highly developed urban area and has diverse natural habitats, providing an advantageous environment for students to study environmental science and practical skills.
- Set up experimental courses and individual graduation research papers to enhance students' practical skills.



Favorable environment for studying in Zhuhai

Mangrove & Wetlands



Intertidal & Coastal area



Streams & Channels



Rice paddles & Agricultural fields



Orchard & Woodland



Livestock & Organic farm

Cultivating BNBU Environmental Science Talents for the New Era

Extensive professional
knowledge

Environmental Science
&
Environmental
Management

X

Composite
knowledge/intelligence

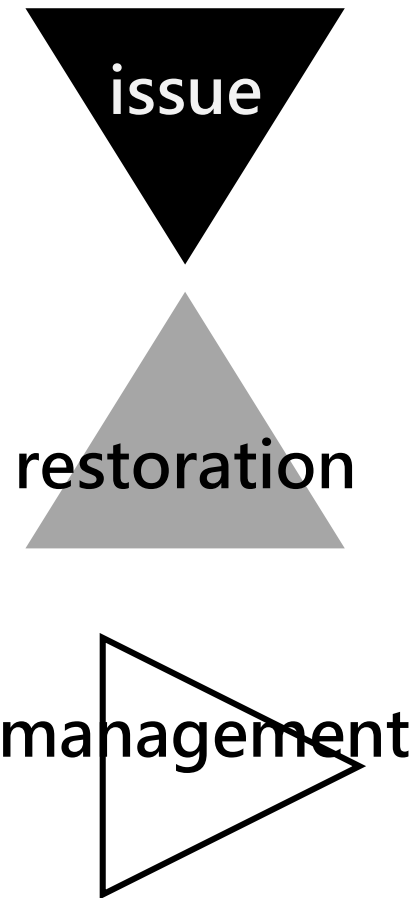
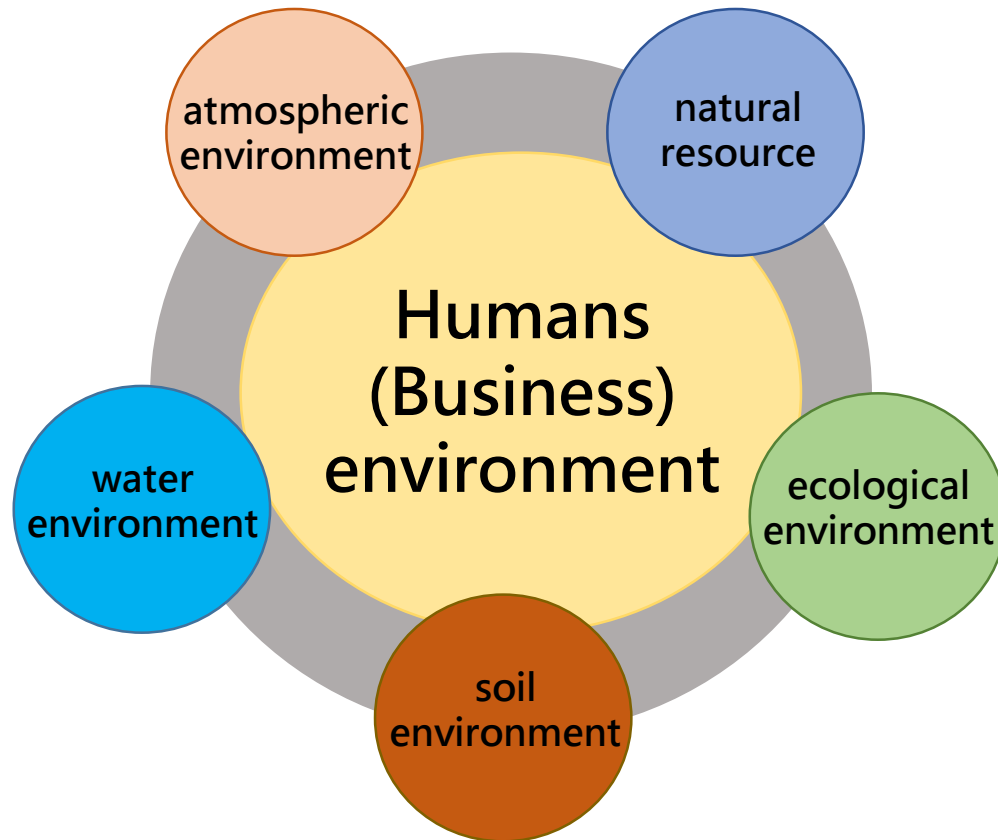
Geographic Information Systems
and Data Analysis

AI, Programming and
Mathematical Modeling

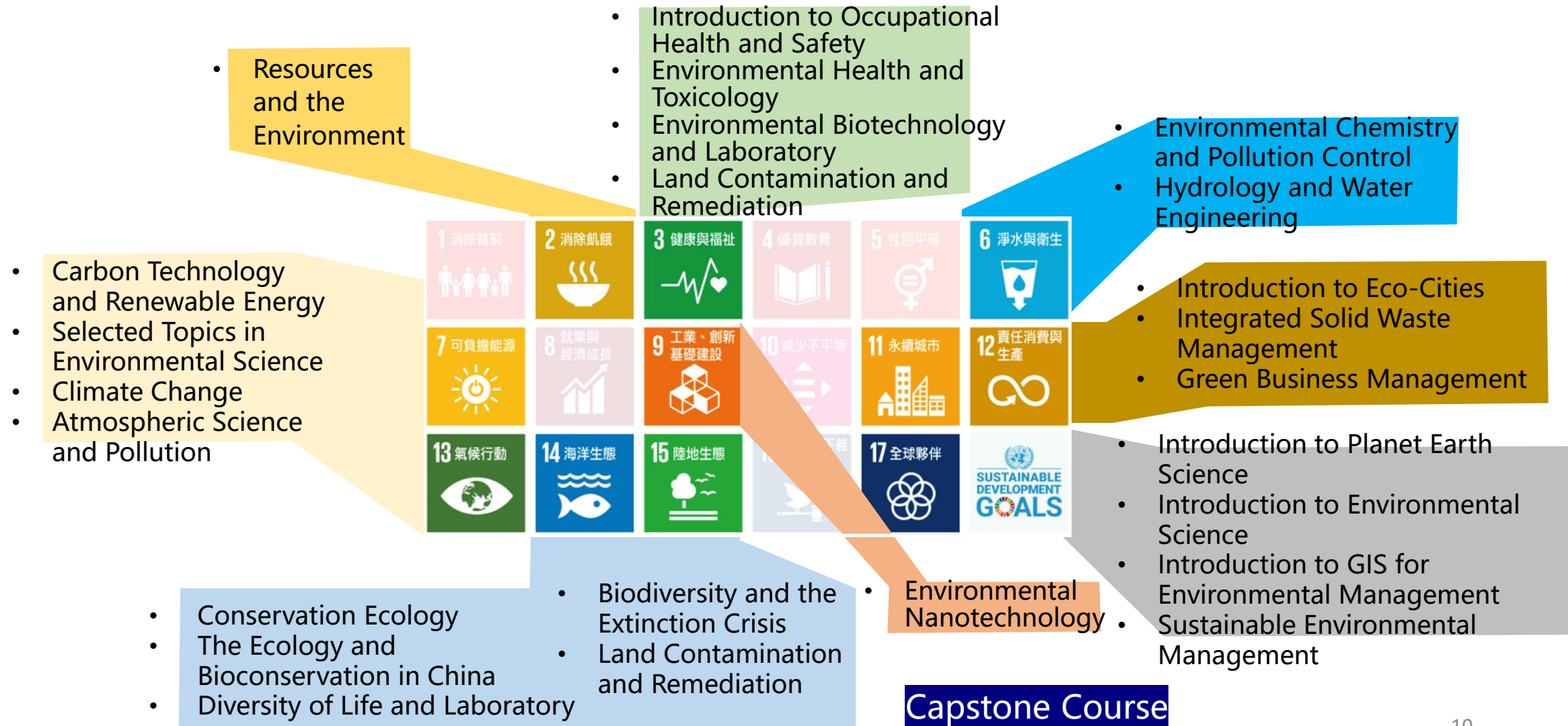
Business Management,
Economics, Accounting

Cross cultural and humanistic

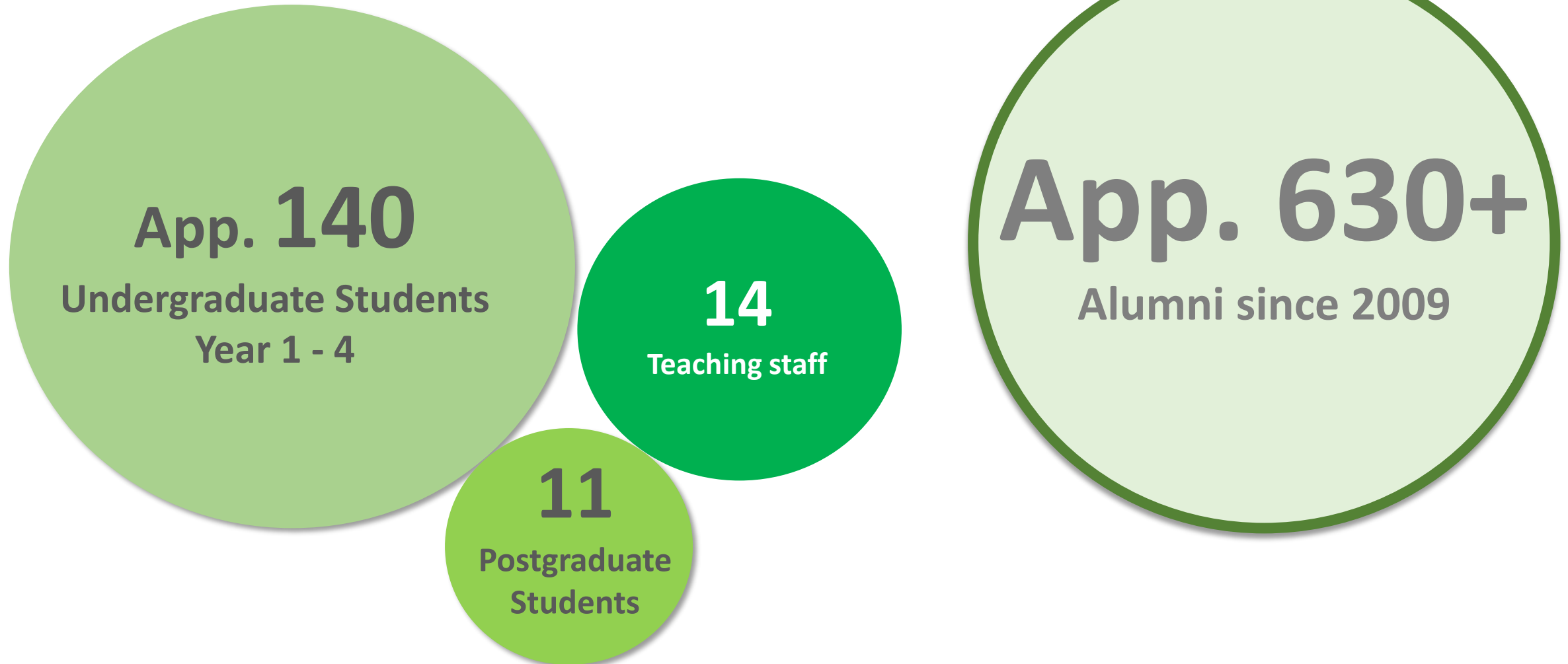
Students basically acquire **extensive and comprehensive** knowledge of environmental protection and sustainable development



BNBU ENVS helps achieve 11 SDG Sustainable Development Goals



BNBU ENVS Community





PART TWO
02

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Who we are?

Teaching Staffs

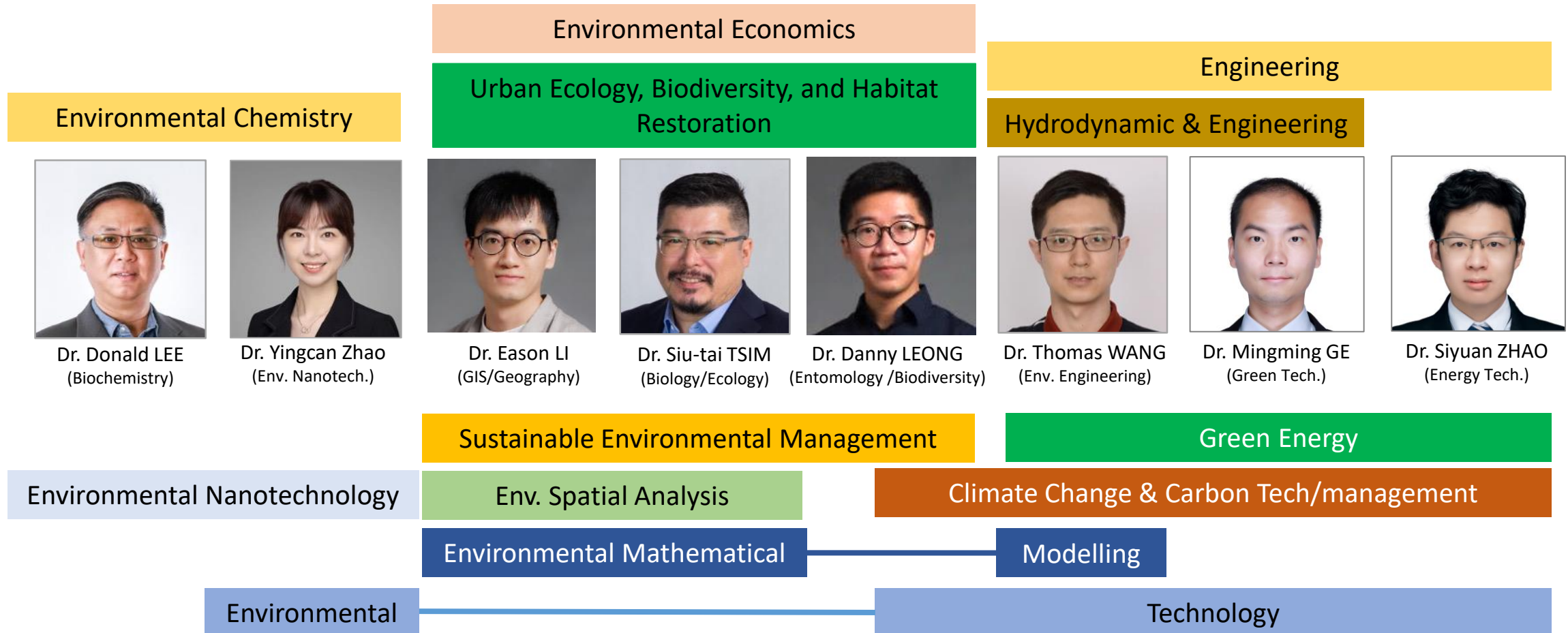
- All assistant professors or higher teaching staffs hold PhD degrees from world-renowned universities.
- International perspective, boasting learning and work experience across the globe (including the United States, Chinese mainland, Hong Kong, Macao and Taiwan regions).
- Work experience in relevant research institutions at home and abroad, world-renowned universities, government departments and environmental protection agencies, and in related industries.
- Diverse research fields, covering environmental chemistry, environmental biology, ecology, environmental engineering, environmental economics, urban ecology and landscape restoration, sustainable development environmental management, environmental spatial analysis, and so on.

Our professors' international working and research experiences help you to develop global vision and become success

A collage of university logos. The logos include: Purdue University (gold 'P' and 'PURDUE UNIVERSITY'), Boston University (red 'BOSTON UNIVERSITY'), BYU (blue 'BYU' and 'BYRON GRAYSON UNIVERSITY'), Trinity University (red 'TRINITY UNIVERSITY'), and Temple University (red 'T' and 'TEMPLE UNIVERSITY'). There is also a circular seal for the University of California, Irvine.



Our Academic Team



Our ENVS Teaching and Laboratory Support Team

Instructors

Ms. Sunshine CHEN
Chemical Engineering



Ms. Shimei HE
Environmental Science

Ms. Veronica GONG
Botony
Biotechnology



Ms. Manlin SU
Sustainable Energy
Business

Lab Management Team



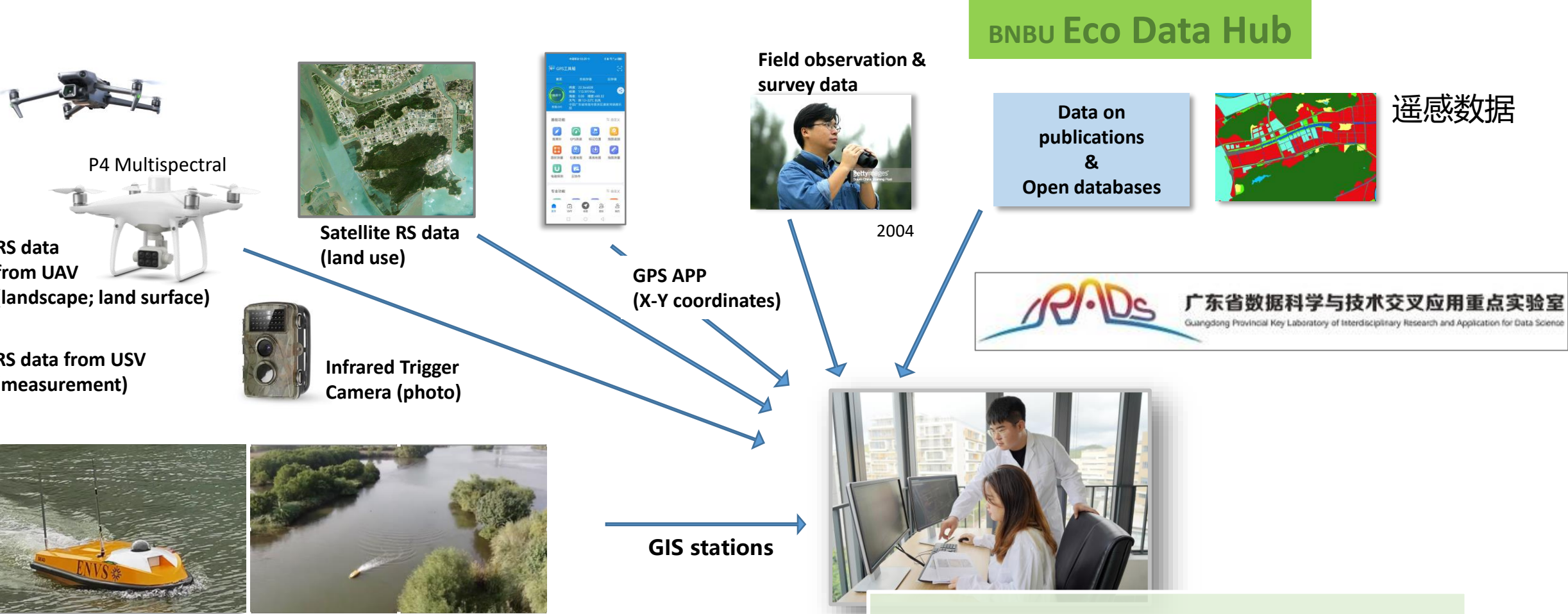
Mr. Car WU
Assistant Lab Manager

Chemistry
Biology
Ecology

Ms. Duojia WANG
Lab Technican

Environmental Science
Analytical Chemistry





4 优质教育



11 可持续
城市和社区



17 促进目标实现的
伙伴关系



14 水下生物



15 陆地生物



BNBU- Zhuhai Bird Watching Association

Joint Hengqin Biodiversity Research Center



Adjunct Professor



Prof. Dongxiao WANG
BNBU ENVS Distinguished
Adjunct Professor
Dean of School of Marine Sciences at
Sun Yat-sen University



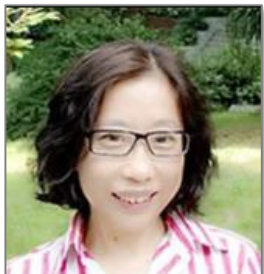
Prof. Jianwen QIU
BNBU ENVS Adjunct Professor
Professor and Associate Head of
the Biology Department at
Hong Kong Baptist University



Prof. Kelvin JONES
BNBU ENVS Distinguished
Adjunct Professor
Distinguished Professor of
Lancaster Environment Centre



Prof. Furong ZHU
BNBU ENVS Adjunct Professor
Associate Dean (Research and
Postgraduate Studies) of Faculty of
Science at Hong Kong Baptist University
Director, Institute of Advanced Materials
at Hong Kong Baptist University



Prof. Yan CHEN
BNBU ENVS Adjunct Professor
Professor at the Department of Geography, the University of Hong Kong



PART THREE
03

What do we learn?

Features of ENVS Curriculum Structure



2025 cohort

Major Required (MR) Courses	55
Major Elective (ME) Courses	18
Major Sub-total	73
College Core Courses	37
GE (Level 1) Foundation Courses	9
GE (Level 2) Interdisciplinary Thematic Courses	6
GE (Level 3) Capstone Course	3
Core and GE Sub-total	54
Free Elective (FE) Courses	24
Total	152

Major Required Courses

A. Foundation Science Courses

Diversity of Life and Laboratory

General Biology

Microbiology

Conservation Ecology

Biology and Ecology Laboratory

General Chemistry

Chemistry Laboratory

Laboratory Safety

Introduction to Probability and Statistics

B. Foundation Courses of Environmental Science

Introduction to Environmental Science

Resources and the Environment

Environmental Health and Toxicology

Environmental Biotechnology and Laboratory

Sustainable Environmental Management

Environmental Study Laboratory

Atmospheric Science and Pollution

Hydrology and Water Engineering

Final Year Project I (ENV)

Major Elective Courses

C. Environmental Natural Science

Biodiversity and the Extinction Crisis

The Ecology and Bioconservation in China

Biochemistry

Practical Biodiversity Conservation

Fundamentals of Biogeochemistry

Terrestrial and Aquatic Environments in China

Introduction to Planet Earth Science

Introduction to Environmental Geology

D. Environmental Technology, Science and Engineering

Biochemistry and Biotechnology Laboratory

Chemical Analysis

Introduction to Environmental Engineering

Environmental Chemistry and Pollution Control

Practical Environmental Analysis and Monitoring

Environmental Nanotechnology

Land Contamination and Remediation

Carbon Technology and Renewable Energy

Integrated Solid Waste Management

Major Elective Courses

E. Environmental Management, Humanities and Social Sciences

Introduction to Geographic Information Systems for
Environmental Management

Advanced Geographic Information Systems for Sustainable
Environment

Climate Change

Introduction to Eco-Cities

China's Environmental Law and International Cooperation Policy

Introduction to Occupational Health and Safety

Green Business Management

Internship in Environmental Science and Management

F. Other Environmental Science Courses

Research Methods for Environmental Science
and Studies

Selected Topics in Environmental Science

Final Year Project II (ENV)

Principles of Physics

[Capstone course] Ecological Civilization in
Greater Bay Community

The Facilities of ENVS

Research Lab.



Microorganism & Fermentation Lab.



Env. Study Lab.
& Chem. Lab.

Advanced Instrumental Analysis Lab.



Biology & Biotech. Lab.

Offices (T8-401)



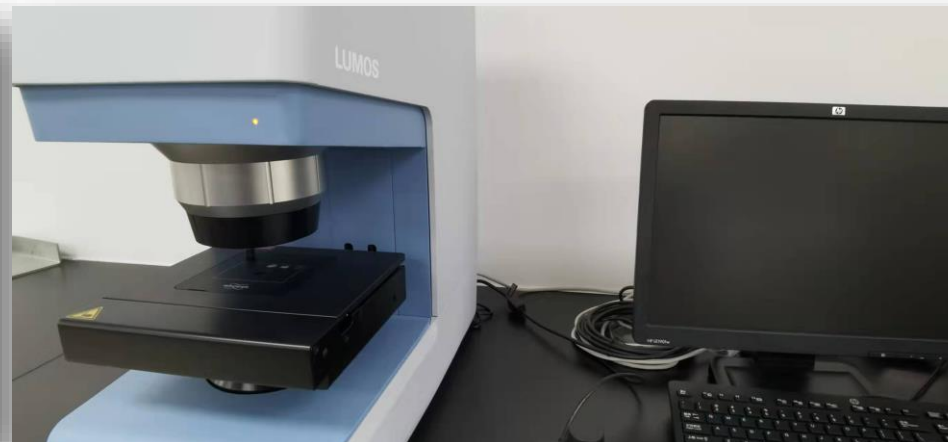
Aquaculture Lab.



GIS facility



电感耦合等离子体光谱仪
Inductively Coupled Plasma
Spectrometer
(ICP-OES)



傅里叶变换红外
光谱仪
(FTIR)

**Undergraduate
students can
use advanced
instruments**

气相色谱/质谱仪
Gas
chromatography
/mass
spectrometer
(GC-MS)



表面积分析仪
Surface Area Analyzer



高效液相色谱仪 (HPLC)

Laboratory courses



Ecological environment research experimental field



Diverse Field Trips





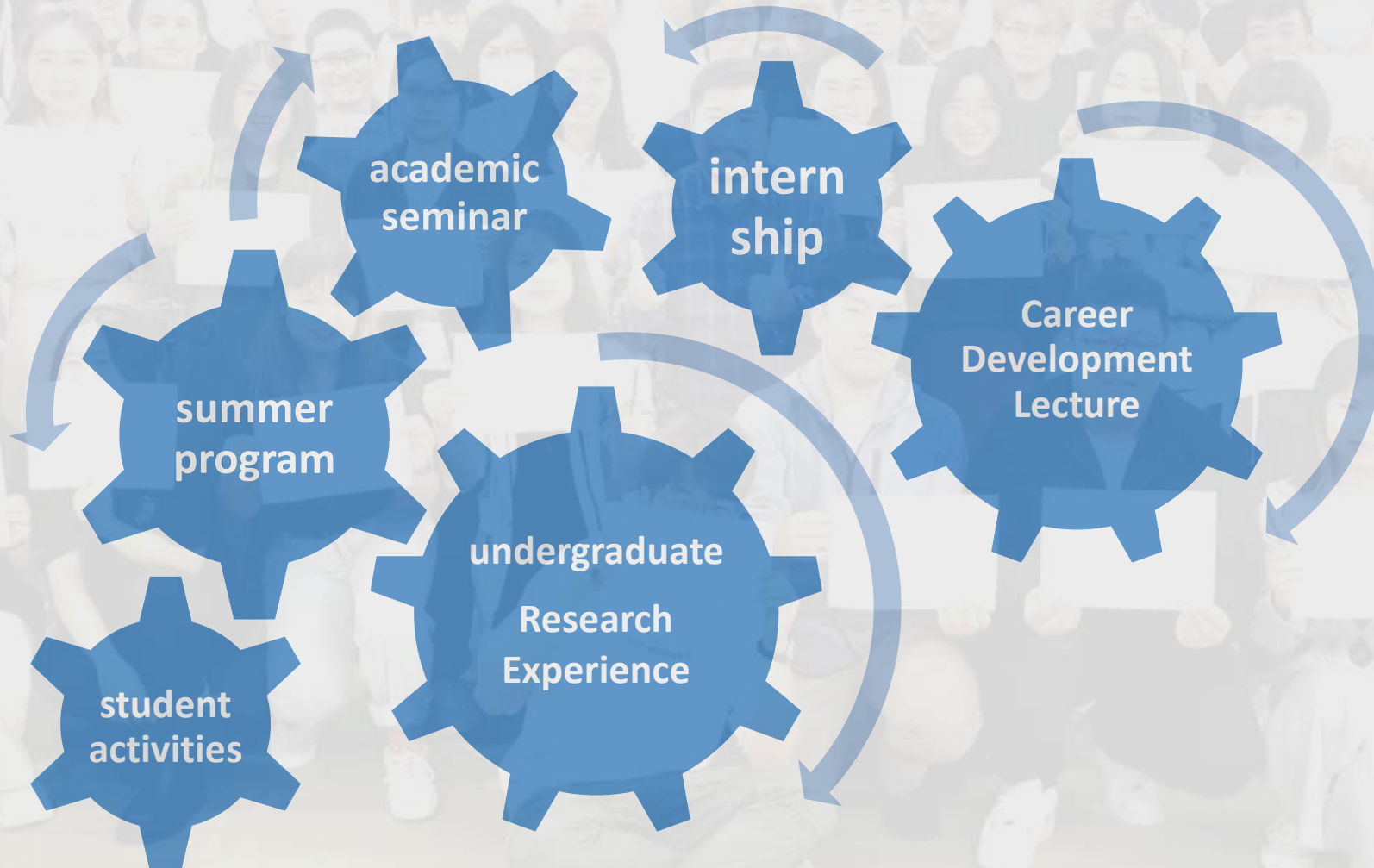
PART FOUR

04

Student style

CCA

Co- & Extra-curricular Activities



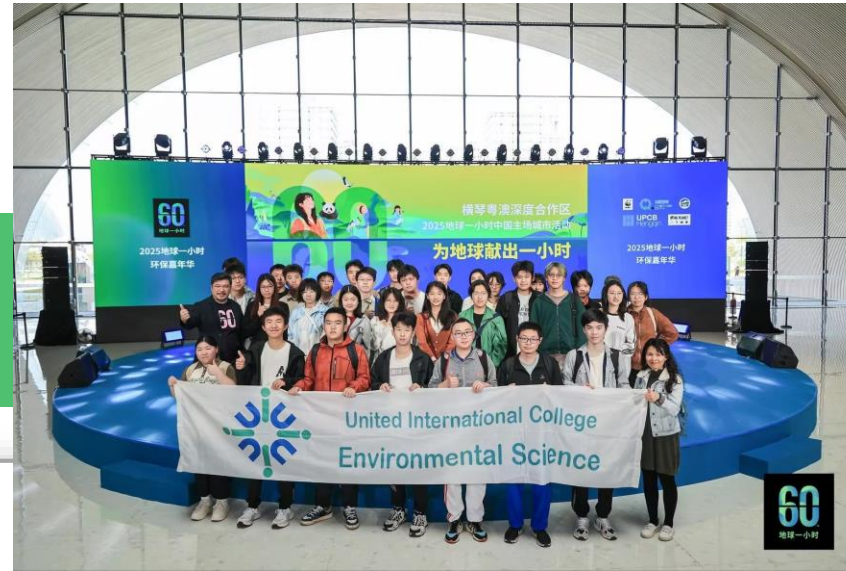
Student Style(1)



Balanced development
of body and mind

Student Style(2)

Participate in the "Earth Hour" environmental protection activity



Participate in the first Zhuhai College Student Marine Environmental Protection Forum



The 12th
International Youth Summit
on Energy & Climate Change

(中国) 青年应对气候变化行动网络

CYCAN

2020年6月-7月

Participate in organizing international environmental actions



Participate the activity of Zhuhai University Action Alliance for Ecological Civilization

External
activities

Student Style(3)

Participate in international competitions

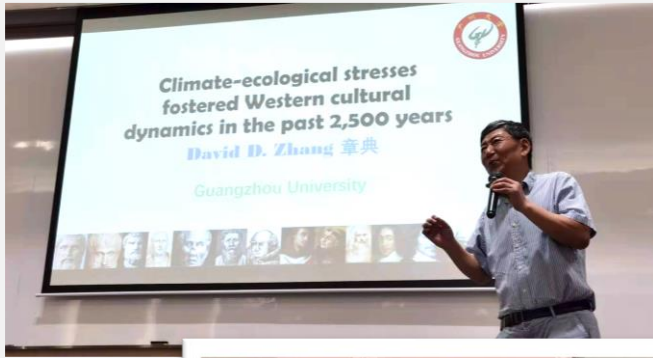
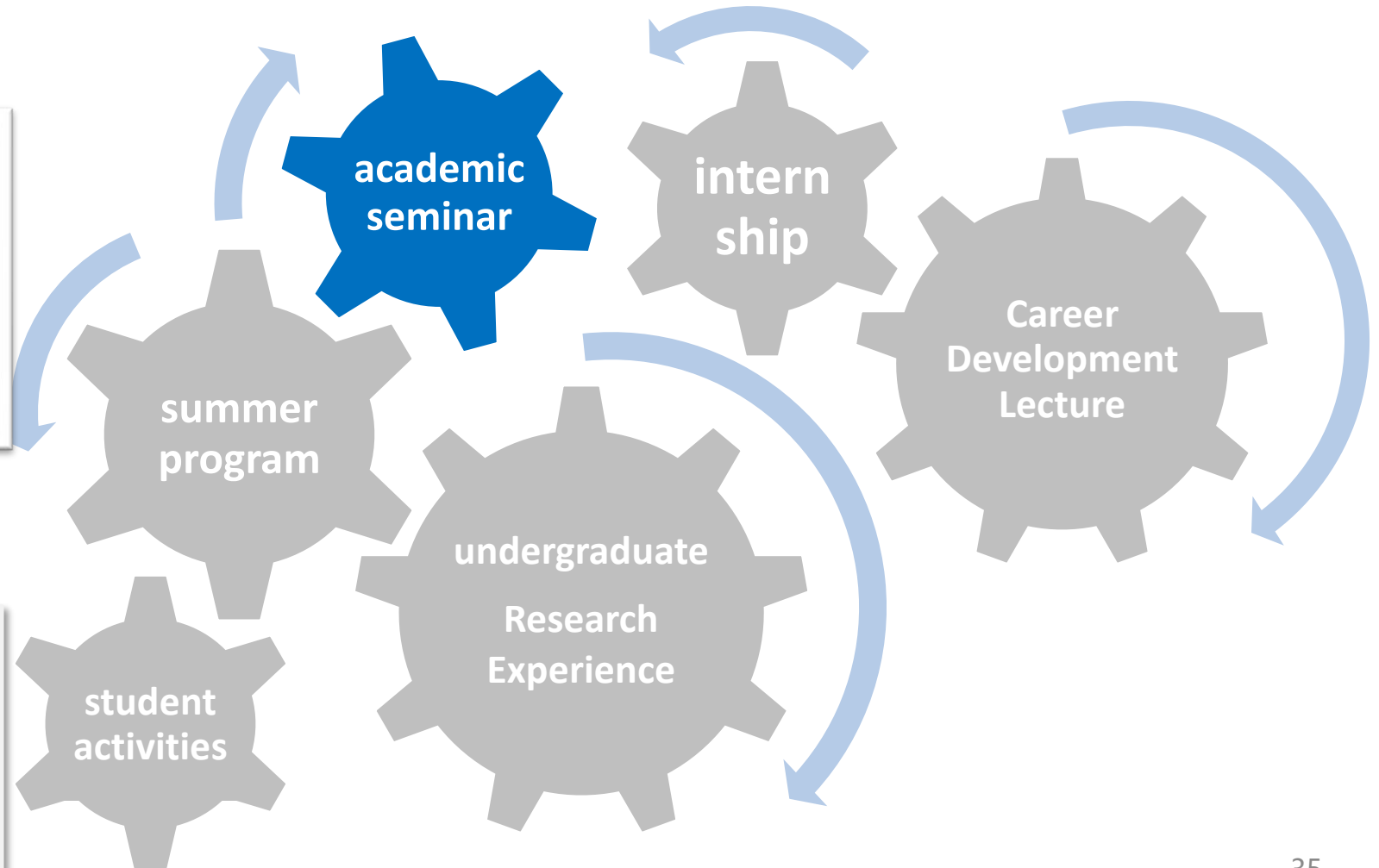


Participated in the 2024 American College Student Mathematical Modeling Competition (MCM/ICM) and won the second prize



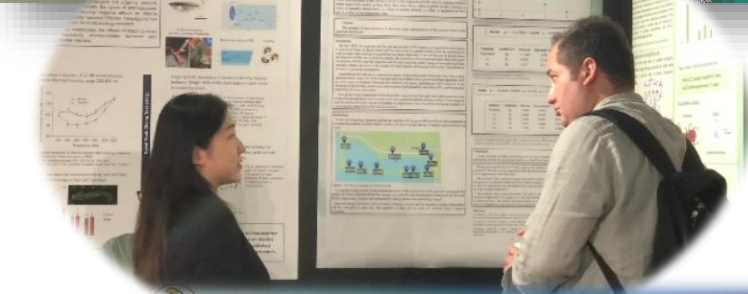
Won the gold medal at the 27th Archimedes International Invention and Innovation Technology Exhibition in Moscow, Russia in 2024

CCA Co- & Extra-curricular Activities





Students and professors participate in international and domestic academic seminars



2023.10.19 ~ 23
第十七届中国鸟类学大会
全球化背景下的中国鸟类学研究



* Joint publication of academic papers by students and professors



Environment and Ecology Research 9(4): 166-172, 2021
DOI: 10.13189/eer.2021.090404

<http://www.hrpub.org>

Effects of Lead on Petrol Degradation Efficiency of Bacteria Isolated from Soils in Zhuhai, Guangdong, China

S. Y. P. Liu*, X. M. Peng*, X. Y. Zhang, B. B. H. Yuen*

Environmental Science Programme, Division of Science and Technology, Beijing Normal University-Hong Kong Baptist University-United International College, Zhuhai, Guangdong Province, China

Chapter 14 Comparison of Building Environment Assessment Systems Across the Belt and Road Countries: How Do Green Buildings Contribute to Achieving Ecological Civilization and Sustainable Development Goals?

Siu-tai Tsim, Sherry Yue Su, Bonny Bun-ho Yuen, and Mandy Liyan Xie*



Toxicology Reports 7 (2020) 200–208

Contents lists available at ScienceDirect

Toxicology Reports

journal homepage: www.elsevier.com/locate/toxrep

Transient exposure to environmentally realistic concentrations of di-(2-ethylhexyl)-phthalate during sensitive windows of development impaired larval survival and reproduction success in Japanese medaka

Bonny Bun Ho Yuen*, Anna Boya Qiu, Bruce Hao Chen*

Environmental Science Programme, Division of Science and Technology, Beijing Normal University, Hong Kong Baptist University, United International College, 2000 Jingtong Road, Tangjiawan, Zhuhai, Guangdong Province, PR China



Article Puffer Fish Gut Microbiota Studies Revealed Unique Bacterial Co-Occurrence Patterns and New Insights on Tetrodotoxin Producers

Zhenchi Li^{1,*}, Jinglin Tian¹, Yukun Lai¹, Chiu-Hong Lee², Zongwei Cai¹ and Chun-Fai Yu^{2,*}

- ¹ Chemistry Department, Hong Kong Baptist University, Kowloon, Hongkong 999077, China; 17482224@life.hkbu.edu.hk (J.T.); 19448481@life.hkbu.edu.hk (Y.L.); zwcai@hkbu.edu.hk (Z.C.)
 - ² Environmental Science Department, Beijing Normal University-Hong Kong Baptist University United International College, Zhuhai 519087, China; chiuHonglee@uic.edu.hk
- * Correspondence: 16483170@life.hkbu.edu.hk (Z.L.); chunfaiyu@uic.edu.hk (C.-F.Y.)

Marine Pollution Bulletin 164 (2021) 112000

Contents lists available at ScienceDirect

Marine Pollution Bulletin

journal homepage: www.elsevier.com/locate/marpolbul

Quantitative and qualitative determination of microplastics in oyster, seawater and sediment from the coastal areas in Zhuhai, China

DuoJia Wang*, Lingcheng Su, Huada Daniel Ruan*, Jiajun Chen, Jianzun Lu, Chiu-Hong Lee, Sabrina Yanan Jiang*

Environmental Science Program, Division of Science and Technology, Beijing Normal University-Hong Kong Baptist University United International College, Zhuhai, Guangdong Province 519085, PR China

Characterization of modified mineral waste material adsorbent as affected by thermal treatment for optimizing its adsorption of lead and methyl orange

LINGCHENG SU¹, JIAJUN CHEN¹, HUADA RUAN^{1,*}, DONGQI CHEN¹, XI CHEN¹, AND CHIUHONG LEE¹

¹Environmental Science Program, Division of Science and Technology, Beijing Normal University-Hong Kong Baptist University United International College, No. 2000 Jingtong Road, Zhuhai, China, 519082



PART FIVE
05

Graduate prospect

International



- 2015 -
- 17 Sustainable Development Goals
- Climate Action

Cross-regional



- 2013 -
- "Belt and Road" ecological and environmental protection cooperation

National



- 13th Five-Year Plan(2016-2020): ecological civilization construction; Ecological and environmental protection planning
- 14th Five-Year Plan(2021-2025): Promote green development, promote harmonious coexistence between man and nature, and promote the comprehensive green transformation of economic and social development

Area



- 2019 -
- Chapter 7 Promoting the construction of ecological civilization
- Section 1 Create an ecological protection barrier
- Section 2 Strengthening Environmental Protection and Governance
- Section 3 Innovate green and low-carbon development models

The 14th Five Year Plan

中华人民共和国国民经济和社会发展第十四个五年规

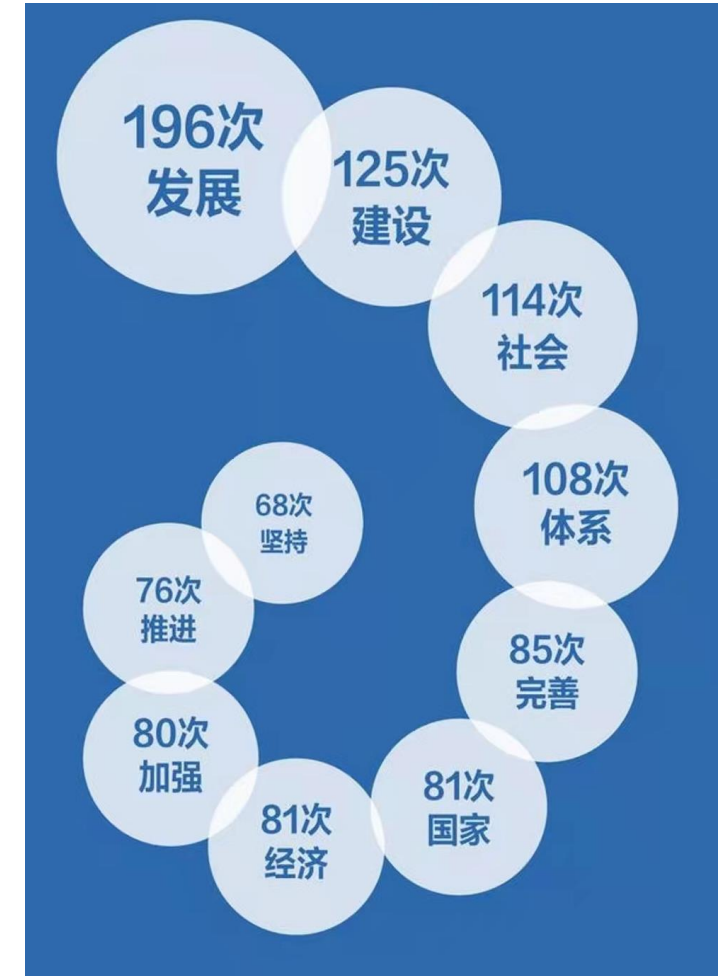
划和2035年远景目标纲要

2035 Vision Goal Outline

- **生态 Ecological (109 times)**
- **农业 agriculture (66 times)**
- **绿色 Green (49 times)**
- **能源 Energy (47 times)**
- **生态环境 Ecological environment (22 times)**
- **碳 carbon (16 times)**
- 垃圾 trash (7 times) 废弃物 waste (4 times)
- 绿色发展 Green development (10 times)
- 节能 energy conservation (10 times)
- 气候变化 climate change (8 times)
- 污染物 pollutants (6 times)
- 生态文明 Ecological civilization (5 times)

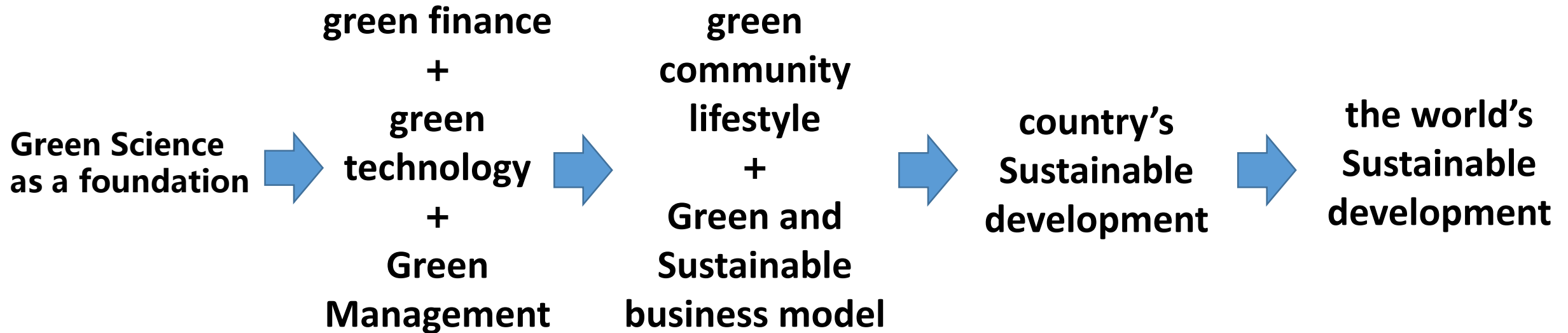
High frequency words related to
environmental protection

High frequency words related to social development



The Snowball Effect of Implementing Sustainable Development Goals

Created a new type of job that requires new skills



The talents trained by BNBU ENVS contribute to the entire 'sustainable development ecological chain'

**Environmental
Management**

Biotechnology

**Environment and
Public Health**

**Environmental
Engineering**

Wide range of further education and career development

**Green
Business and
Investment**

**Resources
conservation**

**Nature Conservation
and Environmental
Education**

**Environmental
Technology**

**Chemical
Analysis and
Laboratory**



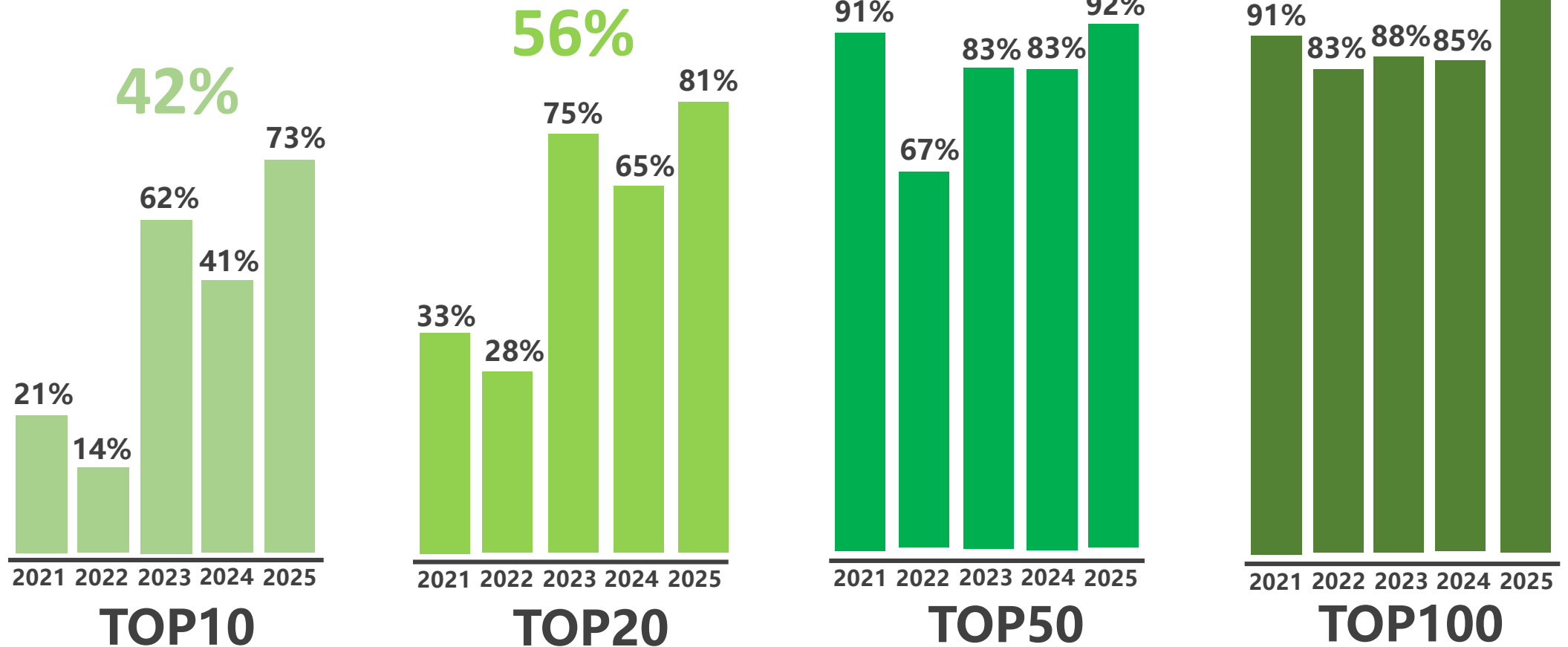
To lay a solid foundation for students after graduation



On average, 83% of graduates who have continued their postgraduate studies in the past 5 years have obtained a Master's degree from one of the top 50 universities in QS (2021– 2025)

Environmental Science graduates perform excellently

Obtained admission to **top** graduate programs at universities worldwide



Graduate Prospect

- Searching for one's **own ideals** and stepping out of one's **own C-path**
- Choose to **work or pursue further education** after graduation in parallel
 - Undergraduate courses are designed to **prepare students with the basic knowledge and skills required for job hunting**
 - Choose to **further your studies with a variety of specialized master's degrees or other qualifications** based on your interests and talents

Example of Development Direction

Enterprise Environmental Management

Environmental consulting

Environmental planning

Environmental impact assessment

Environmental auditing

Environmental monitoring

Sustainable natural resource management

Natural ecological protection

Green building

Green finance

Others, including those unrelated to the environment



Nature of work

Various enterprise units

Government department

Research institution

Institutions of higher education

Commercial laboratory

Management

Sales

Technology

Scientific research

Teaching

Other

环境科学代表着人类的现在和未来

Environmental Science ^{our} Present and Future

Join us! Be one with nature!

