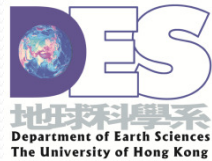


GEOLOGY FOR GEO-TOURISM IN HONG KONG



Presented by Prof LS Chan (HKUDES) Leung Kar Fai (GSHK) Panda Chiu (HKUDES)



BACKGROUND

- **Establishment of Geopark in 2008 creates demand of tour guides**
- **Tour guides do not possess relevant education background or expertise in geology**
- **Misleading geological information and inaccurate messages**
- **Geo-Tourism not only about Tourism but also science of the Earth**

ORGANIZATIONS

Organizers:

- Department of Earth Sciences, HKU
- Geological Society of Hong Kong
- Mineralogy Society of Hong Kong

Sponsor:

- Wong T. Lap Foundation
(Approved charitable institution by HKSAR Government)

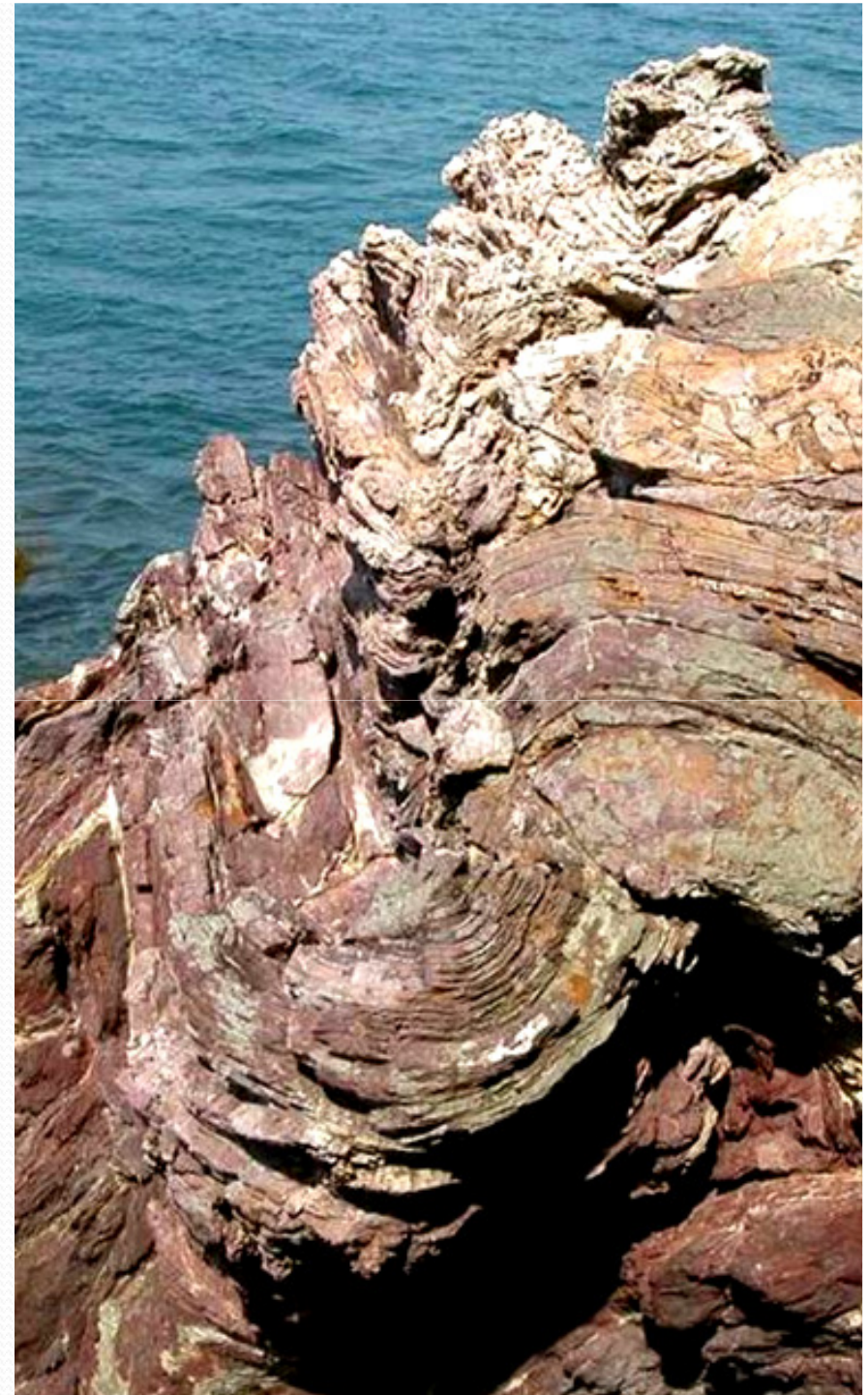
Co-organizers:

- Royal Geographical Society (Hong Kong)
- Hong Kong Discovery
- Hong Kong Travel & Tourism Training Centre



COURSE COORDINATORS

- Leung Kar Fai (GSHK)
 - development of course structure
 - liaison with organizers, co-organizers and course instructors
- Panda Chiu (HKU DES)
 - liaison with participants
 - logistics arrangement



GOALS

To **equip** trainees with an advanced level of understanding of the general geology of Hong Kong

To **prepare** trainees to deliver accurate geological information and message to the public audience during field visits





PROGRAMME DETAILS

Date

22 Sept – 3 Nov 2010

No. of participants

30 – 40

Target participants

General public or tour guides with basic geological knowledge

Language

Cantonese supplemented by English

Mode of teaching

Lectures and field visits

Format

Part-time; lectures on weekdays evening, field visits on weekends

COURSE STRUCTURE

7 Lectures

- Geological knowledge
- Appropriate practices of Health, Safety and Environment (HSE)

6 Field Visits

- Cover all aspects discussed throughout the lectures

Examination

- Written test





COURSE INSTRUCTORS

Taught by experienced geologists who are currently practicing in the sector (in alphabetical order):

- **Prof LS CHAN (Dept of Earth Sciences, HKU)**
- **Phoebe LAU (GEO, HKSAR Government)**
- **Prof CM LEE (Ex-Chairman, Geological Society of Hong Kong)**
- **KF LEUNG (Vale, Brazil)**
- **Dr Edward LIU (Dept of Earth Sciences, Zhongshan University)**
- **Dr George MA (Dept of Earth Sciences, HKU)**

LECTURES

	Lecture	Content	Group Discussion/ Practical/Demonstration
1	General geology and geomorphology of HK	<ul style="list-style-type: none">• Introduction to landscape in HK• Brief history of local and regional geology• Theory of plate tectonics• Rock system 1	<ul style="list-style-type: none">• How to identify rocks• Common rocks in HK
2	Concepts and principles of geology	<ul style="list-style-type: none">• Principles of stratigraphy• Principles of geology• Geological time scale• Geological map reading• Rock system 2	<ul style="list-style-type: none">• Geological map reading• Common rocks in HK
3	Stratigraphy and fossils of HK	<ul style="list-style-type: none">• Paleontology and stratigraphy of HK• Common fossils HK	<ul style="list-style-type: none">• Fossils samples• Common rocks in HK

LECTURES

	Lecture	Content	Group Discussion/ Practical/Demonstration
4	Rocks and Minerals	<ul style="list-style-type: none"> • What are minerals? • Mineral occurrence in HK • Quarrying • Common rock types in HK 	<ul style="list-style-type: none"> • Mineral identification • Minerals in rocks
5	Geological History of HK	<ul style="list-style-type: none"> • Tectonic framework of South China • Mesozoic volcanic activities • Formation of volcanic rocks in HK • Geological structures in HK • Structures and landscape 	<ul style="list-style-type: none"> • Case studies • Geological map reading • Model demonstration
6	Geomorphological Processes	<ul style="list-style-type: none"> • Weathering and erosion • Superficial deposits • Shoreline of HK 	<ul style="list-style-type: none"> • Case studies • Video
7	Health, Safety and Environment for Geo-Tourism	<ul style="list-style-type: none"> • Guidelines for Geo-tourism 	<ul style="list-style-type: none"> • Case studies • Video

GUIDED FIELD VISITS

Field visit locations	Aspects to observe	
Po Toi Island and Lamma Island	<ul style="list-style-type: none"> • Granitic rocks • Xenoliths 	<ul style="list-style-type: none"> • Cross-cutting relationship • Granitic landscapes
Nam Chung Stream	<ul style="list-style-type: none"> • Geological structures • Stream profile 	<ul style="list-style-type: none"> • Structural-controlled landform • Sedimentary rocks
Tai O, Lantau Island	<ul style="list-style-type: none"> • Fossils • Stratigraphy 	<ul style="list-style-type: none"> • Various minerals
Lai Chi Chong and Tolo Channel	<ul style="list-style-type: none"> • Tuffaceous sediments • Geological structures 	<ul style="list-style-type: none"> • Sedimentary rocks • Oldest rock formation
High Island	<ul style="list-style-type: none"> • Shoreline features • Volcanic rocks 	<ul style="list-style-type: none"> • Geological structures
Bluff Head, Kat O Island, Port Island	<ul style="list-style-type: none"> • Shoreline features • Volcanic rocks 	<ul style="list-style-type: none"> • Sedimentary rocks • Geological structures

SCHEDULE

Week	Date	Items
Week 1	22 Sep 2010	Lecture: General geology and geomorphology of Hong Kong
		Practical
	25 Sep 2010	Field visit: Po Toi and Lamma Islands
Week 2	29 Sep 2010	Lecture: Concepts and principles of geology
		Practical
	2 Oct 2010	Field visit: Nam Chung Stream
Week 3	6 Oct 2010	Lecture: Stratigraphy and fossils of Hong Kong
		Practical
	9 Oct 2010	Field visit: Tai O, Lantau Island
Week 4	13 Oct 2010	Lecture: Rocks and minerals
		Practical
	16 Oct 2010	Field visit: Lai Chi Chong and Tolo Channel

SCHEDULE

Week	Date	Items
Week 5	20 Oct 2010	Lecture: Geological history of Hong Kong
		Practical
	23 Oct 2010	Field visit: High Island
Week 6	27 Oct 2010	Lecture: Geomorphological processes
		Practical
	30 Oct 2010	Field visit: Bluff Head, Kat O and Port Island
Week 7	3 Nov 2010	Lecture: Health, Safety and Environment for Geo-Tourism
		Practical
Week 10	24 Nov 2010	Examination



Speaker Biography

(in alphabetical order)

Professor CHAN Lung Sung



- Prof Chan is an expert in earth science with strong expertise on the geology of Hong Kong; extensive connection with the geology communities in Hong Kong; good and credible reputation on Earth Sciences among teachers and student in Hong Kong.
- He has conducted extensive research on the geology of Hong Kong; supervised 1 PhD thesis, 3 MPhil theses and many undergraduate dissertations on geology of Hong Kong.
- He conducted training courses and workshops on the Dynamic Earth about the Geology of Hong Kong for the EDB teachers. During 2008-2009, he coordinated 44 seminars and 24 field trips in 3 teachers training programmes for Hong Kong's geography teachers, of which 12 seminars and 6 field trips were conducted by him.
- He presented over 30 talks on general science, geology of Hong Kong to teachers and the public for EDB, Science Museum, Ocean Park and Central Library during 2004-2009. He recently organized and delivered a seminar series on Hong Kong Geology 360 for the Science Museum, which comprised 8 lectures on aspects of Hong Kong geology, 2 of which given by himself. In addition, he has given numerous talks at secondary schools on earth science topics.

Phoebe LAU N.Y.



- Ms Lau obtained a BSc (Hons) in Earth Sciences from The University of Hong Kong in 1997. After graduation, she joined the Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department of the Hong Kong Special Administrative Region Government as an Engineering Geology Graduate. In 2004, she obtained a Chartered Geologist status from the Geological Society of London (UK).
- Presently, Ms Lau is a geotechnical engineer working in the Hong Kong Geological Survey Section of GEO to handle various geological aspects; such as the geological map sheet updating exercise and the provision of geological advice/comments to other government officers. Before that, Ms Lau had been posted to the Geotechnical Projects Division for seven years with a role to provide mainly geotechnical design assistance and clinic advice to other government offices on geotechnically related projects.
- Between 2001 and 2003, Ms Lau organized and led geological field trips for the public. Meanwhile, she was one of the committee members of the Geological Society of Hong Kong who helped to promote geology to the general public.

Professor CM Lee



- Prof Lee is an expert specializing in the fossil and stratigraphy studies in Hong Kong.
- One of his most significant findings was the discovery of Devonian fish fossils (placoderms) in the Plover Cove area in 1980. The discovery of Devonian fossils was the first in Hong Kong, and established the age of the enclosing rocks (Bluff Head Formation) to be about 400 million years old.
- Between 1988 and 1990, Prof Lee carried out a collaborative research, "Stratigraphy of Hong Kong" project, between the Polytechnic University of Hong Kong and the Nanjing Institute of Geology and Palaeontology. He published the findings in the two special volume reference documents: "The Palaeontology and Stratigraphy of Hong Kong, volume 1 and volume 2", which is the most comprehensive account of the palaeontology of Hong Kong to date.
- He also published papers in the Newsletter of Geological Society of Hong Kong and in other conferences with respect to the structural geology and seismic activities in Hong Kong.

LEUNG Kar Fai



- Mr Leung graduated in Department of Earth Science (HKU) in 2001 and further pursued his master degree in the field of structural geology of the southeastern China region. After his master degree, he joined Inco as an exploration geologist responsible for nickel exploration projects. Since 2007, he has worked with Vale where he focuses on project generations for nickel and copper mineralizations and management for geological, geochemical and geophysical surveys. He spent his time in China, Mongolia, Yemen, Philippines and Indonesia for various mineral projects. He also plays an active role in the management of Health-Safety-Environment (HSE) system in the mining industry.
- He has extensive hands-on experience in conducting field trips for the public audience and various organizations including Bank of China Charity Fund, Department of Earth Science (HKU), Education Bureau (HKSAR Government), General Education (HKU), Geological Society of Hong Kong, GEO 360.
- With research experience in the geology of Hong Kong, he has published and presented findings on Hong Kong geology, providing introductory courses to the Geology and Landscape of Hong Kong to high school students, high school teachers, interested public and professional engineers.

Dr Edward LIU



- Dr Liu is an experienced research geologist who has long been engaging in the study of mineral physics and mineral materials. His most prominent research is on the crystal chemistry and microstructure of Pezzottaite -- a new beryl group mineral. He has conducted on-site research on pegmatite and metamorphic minerals in Madagascar, China and even Russia and his work has expanded to crystal morphology, spectroscopic studies and synchrotron radiation x-ray tomography. Many important research papers about gems and minerals were published in different journals of mineralogy, petrology and gemmology. In 2002, he was awarded the First Prize for "Excellence in Science and Technology" by the Chengdu Academy of Social Science.
- Dr Liu is a Fellow of the Gemmological Association of Great Britain and an instructor of the FGA Gemmology (Diploma) Program since 1992. He is a course instructor of mineralogy in the Hong Kong Baptist University SCE. He has been a presenter (or invited speaker) in many national geological conferences and international gemmological conferences, e.g. the 1st GIA Gemmological Research Conference in San Diego (2006); the 30th International Gemmological Conference (IGC) in Moscow (2007) and the National Conference of Mineral Science and Engineering 2010 (confirmed). He is now the secretary of the Gemmological Association of Hong Kong, a life member of the Chinese Society for Mineralogy, Petrology and Geochemistry, a committee member of the Mineralogy Society of Hong Kong. He is also appointed by the government as a member of the Hong Kong Accreditation Service Task Force on Gemstone Testing.

Dr George MA

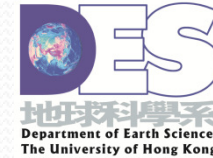


- Dr. Ma obtained his BSc degree in Earth Sciences from The University of Hong Kong (HKU) in 2005, with a thesis on the origin of igneous rocks in Cape D'Aguilar (SE Hong Kong), followed by a PhD from the same University in 2010, with a thesis on Mesozoic-Cenozoic volcanic rocks in NW Syria.
- He worked for a short period of time in the mining industry in Cambodia after his doctorate degree.
- He is currently a researcher of petrology at HKU. His main fields of interest include Geodynamics and petrogenesis of Phanerozoic intraplate volcanism, with particular emphasis on Syria and its vicinity, upper mantle petrology and metasomatism, radiogenic isotopic petrology (Rb-Sr, Sm-Nd, Pb-Pb, Re-Os, etc), with application in igneous systems, and laser-ablation micro-analytical techniques.
- He has tutored and lectured field mapping and global tectonics at HKU, and, as an experienced field geologist, he conducted fieldwork in a number of countries, including Hong Kong, China, Cambodia, Syria and Cyprus.



Profile of Organizers, Sponsor, and Co-organizers

Department of Earth Sciences, The University of Hong Kong



- The Department of Earth Sciences was established at The University of Hong Kong in 1995 and is ideally situated for geological studies on the margin of East Asia especially in Hong Kong.
- The Department now hosts 17 research and teaching staff, a number of Honorary (adjunct) staff and a substantial group of research students (30-35 at any one time) working towards MPhil and PhD degrees.
- Researches undertaking include stratigraphical, structural, petrological, geochemical and geophysical approaches to significant global geological problems that are well represented in the east Asia-west Pacific region.

Geological Society of Hong Kong



- Established by a group of local geologists in 1982, the Geological Society of Hong Kong (GSHK) is a non-profit making organization that aims at advancing geological sciences in Hong Kong.
- The Society believes that geological knowledge is indispensable for achieving a sustainable community, and therefore ought to be widely promoted to the general public.
- Since then, GSHK holds regularly geological conferences and seminars, and organizes local and overseas field trips for both members and non-members to explore the geological world.
- At present, the society maintains a steady membership of about 250, including professional geologists from the public and private sectors, academia, as well as teachers, students and amateurs.

Mineralogy Society of Hong Kong



- The Society started operations in January 2005 to provide a forum where those who are interested in the subject, as amateurs or professionals, can meet. They are an international group.
- The objectives are to provide access to activities, information, publications, equipment and specimens of special interest to mineralogists and collectors.
- The Society organizes various field trips every year; locations include Lin Ma Hang, Needle Hill and Ma On Shan in Hong Kong, Chenzhou City, Hunan, Guizhou and Sichuan in Mainland China.

Royal Geographical Society (Hong Kong)



- The Royal Geographical Society was established in the United Kingdom in 1830. For some 180 years, the Society has been a national and international focus of geographical research, information and exploration and is the largest scholarly geographical society in the world. The Society has more than 15,000 fellows and members in over 100 countries.
- Some of the most remarkable geographical discoveries, scientific explorations and feats of human endeavour have been initiated and supported by the Society. The search for the source of the Nile, exploration of Antarctica and great explorers such as Burton, Livingstone, Scott and Shackleton, are all inextricably linked with the Society, while it was a Royal Geographical Society expedition which first reached the summit of Everest in 1953. It maintains archives of international importance, including a library, photographic collections, the largest private collection of maps in the world and documents, correspondence and diaries that record the history of geography since 1830.
- The Hong Kong branch of the Royal Geographical Society was established in 1995. The branch shares the same aims as the Society. It provides a forum where members can regularly meet and listen to leading local and international speakers from the world of geography and related sciences, exploration, travel, research, the environment and conservation. The branch holds some 35 events each year, including lectures and field trips.

Wong T. Lap Foundation



- Wong T. Lap Foundation Limited was founded in 2008. It is an approved charitable institution by Hong Kong SAR Government.
- It aims to contribute in education, construction and cultural development in Hong Kong and China.
- Its major funding projects include “Take 2” which provide assistance to the youth with drug abuse, “Reconstruction of fishing villages in Hong Kong” for villagers of fishing villages, and researches on the economics and cultural development in China.

Hong Kong Discovery



- Hong Kong Discovery was founded in 2000 based on principles of sustainable development. Its missions are to arouse public awareness towards wildlife, culture and eco-issues both locally and globally; and to provide quality experiences that encourage the appreciation and conservation of culture and the environment.
- Hong Kong Discovery is the expert in consulting, designing and delivering quality nature-based programmes that bring positive impact in learning experience, professional development and team building.
- Over the past 5 years, they hold an average of 60 programmes per year of different themes and format for schools, universities, youth centres, government departments, NGOs as well as professional groups and business corporations. More than 45,000 people have benefited from our fun, inspiring and practical programmes.

Hong Kong Travel & Tourism Training Centre (HKTT)



- HKTT was set up in August 1995, aiming to provide quality practical knowledge to those who would like to join the travel industry or to those who are already working in the field to enhance their knowledge.
- Its management has over 25 years of experience in the Hong Kong travel and tourism industry.
- HKTT was officially approved by the Hong Kong Education Department as a registered Educational Institute in 1996.
- Also, it was appointed as one of the training providers by different governmental programmes including the Employees Retraining Scheme (1996), the Youth Pre-employment Training Programme of the Labour Department (2000), the Skills Upgrading Scheme (2002) and the Skills Enhancement Programme of the Education and Manpower Bureau of the HKSAR (2003).



APPLICATION

- Application form can be downloaded from www.geolsoc.org.hk
- Applicants can return the completed application form to
Department of Earth Sciences, The University of Hong Kong
Attn: Panda Chiu
- Alternatively email the completed application form to
foundationgeology.hk@gmail.com
- Applicants should specify the subject of “Geology for Geo-Tourism in Hong Kong” in all communication
- Successful applicants will receive our confirmation and notification of the course fee payment arrangement
- Enquiries: (tel) 2859 8022 or (email) foundationgeology.hk@gmail.com



PERSONAL INFORMATION COLLECTION STATEMENT

- We are committed to comply with the requirements of the Personal Data (Privacy) Ordinance in Hong Kong
- We do our best to maintain the privacy of all personal information we received
- All collected information will only be used for this course program
- We will not transfer or disclose your personal information to any third party

香港地質座談會 暨 香港地質導賞課程發佈會

- 講者** 香港大港地球科學系陳龍生教授
- 日期** 七月廿六日（星期一）
- 時間** 晚上七時至十時
- 地點** 銅鑼灣掃桿埔大球場徑一號奧運大樓
- 對象** 公眾人士（名額300人）
- 費用** 全免（須預先報名留位、不設現場登記）
- 內容** 香港地質概論
香港地貌之形成
香港地質歷史及演變
香港地質的意義
導賞課程細節

GEOLOGY FOR GEO-TOURISM IN HONG KONG

