Committed to Sustaining a Green Campus at the Chinese University 對持續地發展中文大學成為綠色校園的承諾



Prof. K. M. Chan Chairman of the University Steering Committee on Environment

大學環境事務督導委員會主席 陳竟明敎授 This report provides evidence of the different aspects of improving environmental quality of the university campus for sustainable development. From slope improvement to conservation of flora and fauna, from waste reduction to recycling, from cleaning up the air we breathe to energy saving, from conveying the green message in various campus activities to environmental education, we are committed to sustaining a Green Campus at the Chinese University of Hong Kong. Besides, the report is also aimed at stimulating thinking on how to improve our environmental quality on campus among staff and students.

The number of students has expanded significantly in the past decade, new buildings are being or will be built in a very limited space on campus to cope with the development. We have tried our best to keep all valuable natural habitats when making our infrastructure improvement projects to enhance our teaching and research capabilities. Daily works are essential to improving the environmental quality of campus, recycling is one of the major jobs which requires actions to be taken by all sectors of the University. In addition, balancing energy efficiency and indoor air quality is also a major task. We certainly hope that the existing high standards could be maintained and the environmental gains once made will not lose, we are looking forward to raising our standards and commitments to sustaining a greener campus of the Chinese University for the many years to come. 本報告簡介了大學校園內改善環境質素的各項工作以達成可持 續發展。由斜坡改善工程到校園內動植物之保育,由減廢到回 收工作,由清新空氣到節能,由推廣綠色概念活動到環境教 育,中文大學都致力持續發展成為綠色校園。而本報告另一個 目的,是喚起校內師生多思考如何改善校園的環境質素。

過去十年,中文大學學生人數增加了許多。為了配合新發展, 一些新建築物也陸續落成或在計劃興建中。我們已盡力以有限 資源和在有限土地之下,在保護校園內有價值的生境的同時, 亦可增加許多校園建設和設施來提昇教研質素。日常的工作對 改善校園環境質素也是十分重要的。其中加強校園廢物回收循 環再用是主要的工作之一,這工作也要求大學同寅上下一心去 達成。如何平衡能源效益與改善室內空氣素質也是我們重要的 日常工作。我們當然希望能維持現時校園對環境保護的高標準 與及能取得持續的環保成果。在未來的歲月,我們亦將會邁步 向前,提昇環保質量以持續地發展,令中文大學成為更加綠色 的校園。

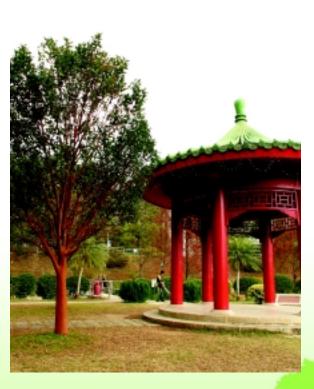
ENVIRONMENTAL POLICY

環境政策

The Chinese University of Hong Kong seeks continually to improve the environmental quality of the campus to provide a congenial environment for teaching, learning and scholastic activities.

The University is committed to ensuring that all activities run by the University are conducted in an environmentally responsible manner and has adopted the following guidelines in pursuance of this commitment:

- We endeavour to build a clean and green campus congenial to the fulfillment of the purposes of the University;
- We seek to comply with all applicable environmental legislation, standards and regulations;
- We avoid, reduce or control environmental pollution arising from our activities and to require our contractors to adopt and implement similar environmental measures;
- We seek continual improvement in the efficient use of energy and other natural resources;
- We raise environmental awareness among staff and students and set the University as a model in environmental education and environmental management;
- We ensure good management practices by reviewing them regularly and ensure that they are tuned to the changing internal and external circumstances.



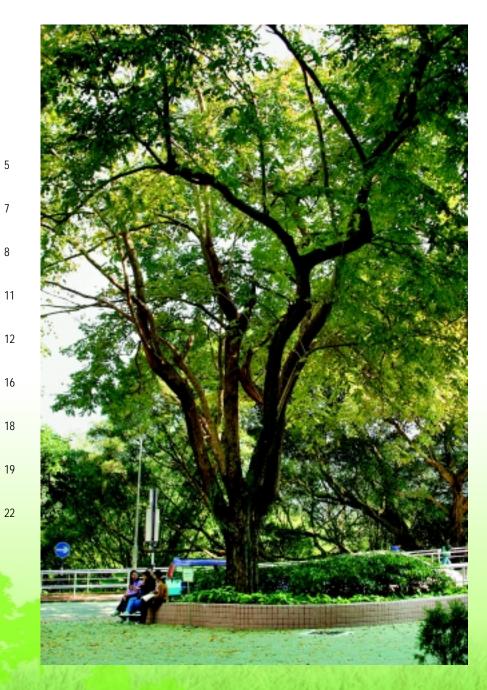
香港中文大學致力改善校園環境,未嘗稍懈,務求為教授、學 習及其他學術活動提供一個理想環境。

我們力求本校所有活動都能顧及環保的責任。為了達到這個目標,本校制定了下列指導原則;

- ·努力建設一個青葱整潔的校園,使員生能在愜意的環境之中 履行大學使命;
- · 恪遵所有現行的環保法例、標準和規則;
- ·大學所有活動必須避免污染環境,或盡可能減少或控制污染。我們還會要求承辦商奉行同樣的環保措施;
- ·力求善用能源及其他天然資源;
- ·提高員生的環保意識,讓大學成為環保教育及環境管理的榜 樣;
- 定期檢討管理方式,務求妥善,並配合校園內外情況的轉
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Making A Greener Campus 校園致力添新綠

Blessed with a beautiful scene at the southwest shore of Tolo Harbour, The Chinese University of Hong Kong (CUHK), lying on a spacious 134-hectare campus with some 110 state-ofthe-art buildings, is located next to Tai Po Kau Natural Reserve, surrounded by six wonderful country parks in the New Territories. There are two natural watercourses in the campus, going into the Tolo Harbour via the peaceful Weiyuan Lake. With the recent rapid development in the HKSAR, the campus has been facing the threat from land reclamation and campus activities such as slope stability improvement projects, renovation works, construction of new hostels and teaching buildings in the past few years. To preserve this unique campus environment is one of the important tasks in our daily activities.

In association with the campus development on the natural terrain from 1960's to 2000's, about 300 man-made slopes were formed hitherto. Pursuant to the government's statutory requirements, all these slopes should comply with current standard which leads to substantial stabilization improvement works since 1997. To keep the campus green, the Campus Development Office (CDO) spends much effort in preserving nature trees and rare species with a view to maximizing green coverage on slopes. Depending on the nature of slopes, different greening technologies (which categorize as soft and hard landscaping) will be implemented. For soft landscaping, methods to be used will include (i) hydro-seeding (or spraying grass seeds) with control mat to prevent soil erosion and protect seeds from birds, (ii) bio-engineering technology by transplanting long-root vegetation on steep slopes, (iii) laying of engineering fibre soil, and (iv) hydro-mulching by spraying of sticky reinforcing material with organic peat and grass seeds. On the other hand, hard landscaping is mainly used to provide hard surface for avoiding surface erosion. To reach this end, stone pitching or shotcreting with installation of planter holes will be adopted. To enhance the growth of vegetation, toe or berm planters will also be used. By applying these technologies, the University environment will be benefited both from campus greening and slope protection.

In the CUHK campus, there are many rare native plant species such as Red Pine, Banyan, Blue Lotus, White Orchid Tree, Sweet Gum, etc. Some of them are the residents in the University growing more than 50 years and become the "landmark" of CUHK. For example, the old fucus tree grows beside the Administration Building(see the cover page) with high leave density and its crown acts like an umbrella to provide a shading area during hot summer. To protect the plants, Estates Management Office (EMO) drafted the "Green Planting Policy" in 2002, stating the commitments and objectives of protecting the plant species and listing the protected species and criteria of protection. Last year, the Landscaping Section of EMO planted 430 trees, 11,606 shrubs, 6,487 flower plants, 3,899 ground cover and 2,826m² of grass to increase the greenery of campus. In addition, attempt was also made by the CDO with the Kadoorie Farm to study the feasibility of planting native species to enhance biodiversity in campus.

Apart from protecting the plant species, the University also makes an effort on the protection of animal species. In the summer of 2002, the Estates Management Office (EMO) carried our repair and repainting of the external wall of the University Library which is one of the biggest swift nesting sites in Hong Kong. During the works, the EMO not only paid attention to the public safety of the pedestrians but also minimised the disturbance of the works to the swifts, their chicks and nests. The project manager eliminated the hazards for the pedestrians by fencing the site properly instead of adopting commonly used "green net" to cover the whole bamboo scaffolding which hindered the in-out of the adult swifts to the nests to take care of the chicks. Besides, all workers were instructed not to touch and cause vibration to the nests. An experienced bird watcher was hired to monitor the repair work with care for the living of the swifts. To further increase the bird species and population in campus, it is planned that the University will co-operate with Hong Kong Bird Watching Society (HKBWS) to conduct a comprehensive bird survey to study the population and species in the campus as a benchmarking for future planning.

A steep slope has now been made more gentle and fixed by 1,000 soil nails, hydro-seeded and covered with an erosion control mat. 原本陡峭的斜坡,現已變為緩坡,固以 千枚泥釘,草種和水撒播,並覆上保護 蓆,防止土壤流失。





The landscape architect and botanists join hand to outline the plant conservation plan. 圆林建築師與植物學家合作,擬定植物保護大計。



The swifts nest on the external wall of the University Library 褐雨燕在中大圖書館外牆築巢。

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香港中文大學位於吐露港西南岸, 環境優美,校園寬敞,佔地一百三 十四公頃,有大約一百一十座設備 先進的建築物矗立其間,毗鄰大埔 滘自然保護區,周圍是六個景物宜

人的新界郊野公園。校園內有兩條天然水道,經恬靜的未圓湖 流入吐露港。過去幾年,香港特區發展迅速,填海工程以及校 園內斜坡鞏固、建築物維修、新宿舍和教學樓興建等工程,都 有破壞校園環境之虞。保護本校得天獨厚的環境,是我們日常 工作要務之一。

從二十世紀六十年代到本世紀初,校園按天然地形動土施工, 形成了約三百個人造斜坡。根據政府規定,所有斜坡必須符合 現行標準,因此自一九九七年以來,本校展開了大規模斜坡鞏 固工程。為保持校園青葱,校園發展處致力保護天然樹木以及 稀有品種,盡量令斜坡草木豊茂。按著各斜坡的斜度及特性, 施用不同的綠化技術。按採用的方式可粗略分為兩種,分別是 以堅硬建築物料為主體的"硬綠化"及以泥土和植物為主體的茬 "軟綠化"。軟綠化法包括:(1)和水播種,即噴灑草種,配以 保護蓆,防止土壤流失以及草種被鳥啄食。(2)生物工程科 技,即在陡峭斜坡上種植具有長根特性的植物;(3)鋪蓋工程 纖維泥土;(4)噴灑植生基質層,內有黏性的加固材料,混和 有機泥炭和草種。至於硬綠化法,主要是建立堅固的表層,防 止侵蝕。嵌石法和混凝土噴灑法都可達到這個目標,而在表層 關設可供種植的孔穴。此外,還採用坡腳盆、崖徑盆等,務求 多添植物。上述方法尚未完全成熟,校園發展處仍在觀察、研 <u>究、及加以改良</u>,期望此等方法可收綠化校園、保護斜坡之 效,有利本校環境。



Rhodoleia championii 吊鐘王

中大校園內,有不少稀有的本土植物品 種,包括赤松、印度榕樹、藍蓮、白蘭樹 和膠皮糖香樹。其中一些是本校「原居 民」,樹齡有五十多年,已成為本校的「地 標」。例如行政樓的老榕樹(請參閱封面),

枝葉茂密,樹冠如傘高撐,盛暑時正好遮蔭。物業管理處為了 保護樹木,二零零二年草擬了綠化政策,訂立保護植物品種的 目標,並列出受保護的品種和保護的準則。去年,物業管理處 園藝組種植了四百三十株喬木,一萬一千六百零六株灌木,六 千四百八十七株顯花植物,三千八百九十九株做地被的小植 物,以及鋪草二千八百二十六平方公尺,以增添校園綠意。此 外,校園發展處還和嘉道理農場合作,研究可否在校園栽種其 他本土植物,使校內植物更多元化。

除了保護各類植物,本校也力求保護各類動物。二零零二年夏 天,物業管理處動工修葺中大圖書館外牆,這裡正是褐雨燕在 香港築巢最多的地方之一。施工期間,物業管理處不但要顧及 途人安全,還要盡量避免干擾燕巢、褐雨燕和雛燕。為防止物 件墮下擊傷途人,工程負責人利用圍欄阻隔行人而不採用遮掩 竹棚的「綠網」,以免阻礙燕子出入燕巢照顧雛燕。此外,所有 工人都奉命不得觸摸燕巢,或令燕巢受到震動。我們還聘請了 一位富有經驗的觀鳥員,監察燕子的起居和成長。此外,為了 進一步增加校園鳥類的品種和數目,本校計劃跟香港觀鳥會合 作,展開大規模的鳥類觀察行動,研究校內鳥類的數目和品 種,作未來計劃的指標。

Fifty Common Plant Species in Campus of The Chinese University of Hong Kong 香港中文大學校園內常見的五十種植物

Family 科	Scientific Name 學名	English Name 英文名	Chinese Name 中文名	Family 科	Scientific Name 學名	English Name 英文名	Chinese Name 中文名
Cycadaceae	1. Cycas revoluta	Sago Palm			26. Michelia figo	Banana Shrub	
Ginkgoaceae	2. Ginkgo biloba	Maidenhair Tree	銀杏(白果樹)	Lauraceae	27. Cinnamomum burmannii	Cinnamon Tree	陰香
Pinaceae	3. Pinus massoniana	Chinese Red Pine	馬尾松		28. Persea americana	Avocado	鱷梨
	4. Pinus morrisonicola	Morrison's Pine	五葉松	Hamamelidaceae	29. Liquidambar formosana	Chinese Sweet Gum	楓香
Taxodiaceae	5. Glyptostrobus pensilis	Water Pine	水松		30. Rhodoleia championii	Rhodoleia	吊鐘王
Araucariaceae	6. Araucaria heterophylla	Norfolk Island Pine	南洋杉	Rosaceae	31. Eriobotrya japonica	Loquat	枇杷
Cupressaceae	7. Cupressus funebris	Weeping Cupress	柏		32. Prunus persica	Peach	桃樹
Gnetaceae	8. Gnetum indicum	Gnetum	買麻藤	Leguminosae	33. Albizia chinensis	Chinese Albizia	楹樹
Casuarinaceae	9. Casuarina equisetifolia	Horsetail tree	木麻黃	C C	34. Samanea saman	Rain Tree	雨樹
Piperaceae	10. Piper betle	Betel Pepper	蔞葉		35. Bauhinia blakeana	Hong Kong Orchid	香港紫荊
Salicaceae	11. Salix babylonica	Weeping Willow	垂柳		36. Christia obcordata	Christia	馬蹄金
Moraceae	12. Artocarpus heterophyllus	Jackfruit	波羅蜜		37. Erythrina speciosa	Large-leaved Coral Tree	象牙花
	13. Ficus microcarpa	Chinese Banyan	細葉榕		38. Glycine max	Soy Bean	黄豆
Proteaceae	14. Grevillea robusta	Silk Oak	銀樺		39. Lablab purpureus	Hyacinth Bean	扁豆
Loranthaceae	15. Taxillus chinensis	South China Mistletoe	廣寄生		40. Moghania macrophylla	Common Moghania	大葉千斤拔
Amaranthaceae	16. Celosia argentea	Quail Grass	青葙		41. Pueraria lobata	Kudzu Vine	野葛
Nyctaginaceae	17. Mirabilis jalapa	Four-O' clock	紫茉莉		42. Pterocarpus indicus	Burmese Rosewood	紫檀
Nymphaeaceae	18. Nelumbo nucifera	Sacred Lotus	蓮	Averrhoaceae	43. Averrhoa carambola	Carambola	楊桃
	19. Nymphaea caerula	Blue Lotus	藍睡蓮	Tropaeolaceae	44. Tropaeolum majus	Nasturtium	金蓮花
Ranunculaceae	20. Paeonia suffruticosa	Tree Peony	牡丹	Ixonanthaceae	45. Ixonanthes chinensis	Ixonanthes	黏木 (山檳榔)
Nandinaceae	21. Nandina domestica	Sacred Bamboo	南天竺	Rutaceae	46. Murraya exotica	Murraya	九里香
Berberidaceae	22. Mahonia fordii	Ford's Mahonia	十大功勞		47. Tetradium glabrifolium	Melia-leaved Euodia	辣樹
Magnoliaceae	23. Magnolia grandiflora	American Magnolia	荷花玉蘭		48. Zanthoxylum ailanthoides	Spiny Ash	鷹不仆
	24. Michelia alba	White Orchid Tree	白蘭	Burseraceae	49. Canarium album	White Canarium	橄欖
	25. Michelia champaca	Yellow Orchid Tree	黃蘭	Euphorbiaceae	50. Vernicia fordii	Tung Oil Tree	油桐

All information was provided by Dr. Hu Shiu Ying. 所有資料均由胡秀英博士提供。

Working Together For A Better Environment

同心合力改善環境

University Steering Committee on Environment (USCE) is the environmental policy maker in CUHK. Under the USCE, three task forces are responsible for the improvement on campus environment. The members of USCE and task forces include staff from administrative offices and academic departments, college representatives, student representatives for Student Society and green student organizations such as Green World, Green Post, etc, to ensure the wide communication among different groups in the University. Besides, the University Safety and Environment Office (USEO) co-ordinates the relevant offices such as the Estates Management Office, the Campus Development Office and the Transport Unit to assist USCE in implementing various environmental projects and plans. The Environmental Officer and other professionals such as Safety officers, Transport Officer and Canteen Service Officer oversee the daily operation of campus transport, canteens and restaurants, construction sites, laboratories, etc. to ensure compliance to the relevant environmental legislations and these activities are conducted in environmental responsible ways.

To widen the eyes on the environmental issues, a Safety and Environmental Co-ordinator Scheme has been established to assign appropriate staff in departments to promote and communicate the environmental issues such as waste reduction and energy management within the workplaces. Moreover, environmental committees are formed in each College to promote environmental awareness among students and staff and to maintain a high standard of environmental hygiene on campus.

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The University understands that the effort of contractors and sub-contractors are essential to maintain a pollution-free campus. Therefore, Environmental Guideline was prepared for the contractors to make them aware of the environmental requirements and the practicable measures to help them conduct the works in environmental friendly ways.

大學環境事務督導委員會(環境督導會)是本校負責制定環境政 策的組織。其下有三個小組委員會,負責改善校園環境的工 作。環境督導會和三個小組委員會的成員,包括行政和敎學部 門職員、各書院代表、學生會以及學生環保團體綠色天地、中 大綠色報等代表,務求各方面意見交流暢通無礙。大學安全及 環境事務處則負責聯絡物業管理處、校園發展處、交通組等相 關部門,協助環境督導會執行各項環境計劃。環境事務主任以 及安全主任、交通事務主任、飯堂事務主任等專業人員通力合 作,監察校園內交通、飯堂、餐廳、建築工地、實驗室等的日 常運作,確保一切符合環保條例,積極保護環境衛生。

為了加強對環保問題的關注,我們推行了安全及環境協調員計 劃,由各部門指派專責人員,促請同事多注意減少廢物、能源 節約等工作場所環保問題。此外,各書院也成立了環境委員 會,負責提高員生環保意識,以及保持校園環境清潔。

我們明白要防止校園污染,必須獲得承建商和分判商合作,因 此,大學特別為他們制定一套環境指引,列明本校的環保守 則,以及施工時切實可行的環保措施。



The USCE members regularly discuss and review the environmental issues within the University. 大學環境事務督導委員會定期舉行會議,討論校園的環保事項。



Chung Chi College

The Campus Environment Committee of Chung Chi aims to promote environmental awareness among students and staff and to maintain a high standard of environmental hygiene on campus. In March 2002, the Committee organized the Environmental Protection Cup with various inter-hostel competitions, such as Water Saving, Electricity Saving, Used Paper Collection, Used Aluminum Cans Collection, Used Plastic Bottles Collection and Slogan Design. The Committee also organized the Environmental Protection Week to promote environmental protection on campus. Apart from student activities, the Committee also organized a Tea Session Gathering with Support-



ing Staff in January 2002 to collect opinions from and exchange ideas among the supporting staff members, student hostel wardens, student representatives, and staff members from EMO on ways to keep the campus clean. The Committee also actively participated in and coordinated other environmental programmes, which were organized by Environmental Protection Department (EPD), Environmental Campaign Committee (ECC) or other green organizations outside.

崇 基 學 院

崇基校園環境委員會的目標,是提高員生的環 保意識,同時力求校園環境衛生維持高水準。 二零零二年五月,委員會籌辦學生宿舍環保盃 比賽,包括節省用水、節省用電、廢紙回收、 鋁罐回收、塑膠樽回收、口號創作等項目。委 員會還籌辦了一個環境保護週,促進校園環保 工作。除了動員學生,委員會更於二零零二年 一月和學院的輔助職員茶聚,徵求他們以及學 生宿舍舍監、學生代表、物業管理處職員等對 保持校園清潔的意見,彼此交換心得。此外, 委員會還積極參與和配合環境保護署、環境保 護運動委員會以及其他校外綠色團體籌辦的環 保計劃。

New Asia College

With the purpose to promote a general awareness of the environmental protection in the campus, the Committee organized the Second Environmental Protection Week with "Environmental Protection and Daily Life" as the theme from 12 to 19 October, 2001. A series of activities had been organized like Board Exhibition, Book Exhibition, Movie Show, Used-Clothing Collection Campaign, the interhostel Organic Farming Competition and visit to Mai Po.

Apart from that, Organic Farming Activity was also carried out to let those staff enjoy the fun of farming. Besides, the information on electricity, water & gas consumption of every student hostel, current affairs on environmental protection and other related news were posted up. It was hoped that students' view on environmental protection could be broad-



ened and their understanding on this matter could be enriched.

新 亞 書 院

新亞書院環境委員會二零零一年十月十二至十 九日舉辦第二屆環境保護週,題為「環保與日 常生活」,旨在促進校園內員生的環保意識。 環境保護週的活動包括述事板展覽、書展、電 影播映、舊衣收集、學生宿舍有機種植比賽、 米埔遊等。

此外,委員會還籌辦有機種植活動,使員工得 嘗耕種之樂。並於報告板上張貼各學生宿舍的 電力、食水、石油氣消耗量,以及環保和其他 相關訊息,務求拓展學生的環保視野,增加他 們對環保問題的了解。





Shaw College

The Environment Enhancement Committee of Shaw College formulates the College's policies and measures for the betterment of the campus environment, and promotes general awareness of environment hygiene, campus ecology and related matters among staff and students. In the 2001-02 academic year, the Committee organized a photo contest and recycle bin design competition opened to all staff and students of the University with the aim of enhancing environmental awareness and appreciation of the campus. In addition, a treeplanting activity was held on the College Graduation Day to commemorate the occasion. Adjacent to the College basketball and volleyball court is the new HERBSNSENSES Chinese Medicinal Plants Garden which offers flowering plants of medicinal as well as ornamental value.

逸夫書院

逸夫書院環境促進委員會負責制定書院的環境 改善政策和措施,並致力促進員生對環境衛 生、校園生態及其他環保事宜的認識。二零零 一至零二學年期間,委員會籌辦攝影比賽及廢 物回收箱設計比賽,歡迎大學全體員生參加, 旨在提高環保意識,以及對校園環境的愛護。 此外,又於書院畢業禮當日舉辦植樹活動,以 資紀念。書院籃球及排球場附近新闢的草苓香 中草藥園,所種顯花植物既可供藥用,也有觀 賞價值。

United College

The Environmental Committee of United College encourages the staff and students to conserve energy and water by organizing the Energy-wise Award Scheme in the hostels. Three Awards, Electricity-wise Star Award, Waterwise Star Award & Overall Energy-wise Award, were presented to the hostel with the highest percentage of reduction in electricity and water.

The Environmental Committee also promotes Organic Farming in the College to recycle organic wastes. With the programme, the students learned and practiced organic farming through planting and harvesting during the summer holiday. To celebrate the 45th Anniversary of United College, a tree-planting day



with more than 60 participant, was held on 21 April 02 in Tai Tam Chung Country Park.

聯合書院

聯合書院環境委員會積極鼓勵員生節省能源, 特舉辦學生宿舍節省能源計劃,共設有三個獎 項-電力慎用之星獎、食水慎用之星獎、能源 慎用總成績獎,頒與水電消耗量減省比率最高 的宿舍。

委員會還提倡校園內有機種植,鼓勵循環使用 有機廢料。參與這個計劃的學生,可於暑假期 間學習有機耕種,體驗種植、收成的工作。此 外,為紀念聯合書院創校四十五週年,委員會 二零零二年四月二日於大欖涌郊野公園舉行植 樹日,參加者有六十多人。







Breathing Clean Air 呼吸清新空氣

Monitoring of Indoor Air Quality was conducted in various buildings. 大學在各大樓內裝置儀器,監察室內 空氣質素。



To reduce black emission, all school buses and shuttle buses hired from the contractors are regularly maintained and installed with diesel oxidation catalytic converters. In 2001, Estates Management Office completed the trial run of the Electrical Scooter and found that it is capable of saving energy by 2/3 and is pollution free. In April 2002, EMO introduced the first three scooters and widely used as daily transport within campus. To control the mobile emission source, the Security Unit also implemented a label system to regulate the number and entry of heavy vehicles from the construction site of Tolo Harbour via the campus. The staff of Security Unit will issue abatement notice to the drivers to remind them to properly maintain their vehicle emitting black smoke.

Indoor air quality (IAQ) is a growing concern since most people spend more than 70% of their time indoors. There are many possible sources of pollutants that may affect indoor air quality. These factors include building / building services design, maintenance and operation of mechanical ventilation and air-conditioning systems, building management, house-keeping and occupancy rate etc. Poor indoor environment may lead to discomfort, ill health, absenteeism and low productivity. Therefore, it is necessary to keep workplace clean and adequately ventilated. There are relevant Code of Practice under the amended Factories and Industrial Undertakings Ordinance and Regulations on Control of Air Impurities in the Workplace. In view of the situation, a background information of indoor air quality in various buildings of the campus is required so as to

identify the need for improvement where appropriate. Campus Development Office had commissioned a consultant to carry out an indoor air quality survey and analysis for twenty (20) buildings in accordance with the guidance notes and Code of Practice issued by the Environmental Protection Department and Occupational Safety and Health Branch of Labour Department respectively. The IAQ survey report was studied by Estates Management Office (EMO) and University Safety & Environment Office (USEO). The results of the survey were generally in accordance with the Environmental Protection Department's draft guidance notes except in some areas where ozone, formaldehyde and radon were found higher than the standards. Accordingly, EMO had carried out necessary improvement works, such as adding more fresh air (intake) to the concerned areas, increasing the ventilation flow rate and cleansing the areas more frequently.

To minimize the dust emitted by the construction activities, the contractors are instructed to cover the construction materials properly and use wetting, spraying and washing pool to suppress the dust emission.



Vehicle washing pool was set up at the entrance of construction sites to clean up the dust. 建築工地入口處設立洗 濯池,洗去車輛灰塵。 為了減少黑煙排放,所有校巴以及向承辦商租用的穿梭巴士都 有定期維修,並安裝了柴油催化淨化器。物業管理處二零零一 年完成了電動摩托車測試,發覺可節省能源達三分之二,而且 不會污染環境,故於二零零二年四月開始,以三輛電動摩托車 作校內日常交通之用。此外,保安組實施標籤制度,限制由吐 露港建築工地駛經校園的重型車輛數目。保安站職員會向司機 派發通知,提醒他們妥善控制黑煙排放。

大多數人超過百分之七十的時間在室內度過,所以室內空氣素 質越來越受重視。有不少因素可令室內空氣污濁,包括建築物 或建築物設施的設計、機械通風和空氣調節系統的維修和運 作、建築物管理、室內清理工作、室內人數等。室內環境污 染,可能令員工感到不舒服,健康受損,經常缺勤,以及生產 力下降。因此,工作場所必須保持清潔,空氣也須流通得宜。 經修訂的工廠及工業經營條例和控制工作地點空氣雜質的工作 守則,對此都有制定守則。為求了解哪些地方須改善,本校須 搜集各建築物日常室內空氣素質的資料。因此,校園發展處委 託顧問公司,根據環境保護署和勞工處職業安全及健康部頒發 的指引和守則,檢查、分析校內二十幢建築物的室內空氣素 質。顧問公司寫成的報告,交物業管理處和大學安全及環境事 務處參考,發覺調查所得大致符合環境保護署的指引,只是若 于地點的臭氧、甲醛和氡氣高於標準,物業管理處據此實行了 所需的改善措施,例如多點引進清新空氣、提升通風程度、增 加清潔場地次數等。

此外,為減少建築工程排出的灰塵,本校指示所有承建商把建築材料蓋好,並使用淋濕法、噴灑法、洗濯池等,防止灰塵飛揚。

11

Taking Off The Wasteload 減少廢物

Hong Kong faces a serious shortage of landfill space due to its growing wasteloads. It is anticipated that landspace will be run out in about 10 years. The University acts as a proactive stance for the waste reduction and recycling. Office areas and more than 55 strategic points are provided with different kinds of recycling bins to facilitate waste separation and collection. Waste collector collects the recyclable wastes weekly. Compared with 2001, the recover quantity of papers, plastic bottles, aluminum cans and printer cartridges were successfully increased by 6.8%, 18.3%, 26.7% and 19.6% respectively.

香港的垃圾不斷增加,堆填區嚴重不足,估計約十年之後就無處堆放。本校在廢物減產、循環再造上態度積極,特於辦公室和五 十五個校園要點設置不同的廢物回收箱,方便把廢物分類收集。廢物由收集商每星期收集一次。二零零二年,廢物回收量成功上 升-廢紙:6.8%、塑膠樽:18.3%、鋁罐減:26.7%及塑膠樽:19.6%。

Quantity of Recyclables Recovered 可再用廢物的回收數量	2000	2001	2002
Waste Paper (Kg) 廢紙 (公斤)	240,600	238,250	254,500
Plastic Bottles (Kg) 塑膠樽 (公斤)	865	1,090	1,290
Aluminum Cans (Pcs) 鋁罐 (公斤)	595	670	849
Printer Cartridges (Number) 列印機炭粉盒 (數目)	No Data 未有統計	357	427





Say "NO" to Disposable Tableware

Waste Reduction Advice Prompt 廢物減產提示





Deskside Integrated Recycle Bins for Office Use : 60 Sets 辦公室用個人綜合廢物回收 桶:共60套



Waste Paper Collection Cages : 19 Sets 廢紙回收籠: 共 19個



1

Small Container for Non-recyclable Waste 盛載不能循環再用廢物之小桶



Blue Container for Paper Waste 盛載廢紙之藍桶



A4 Paper Collection Bins: 5 Sets A4 紙回收箱:共 5個

Apart from the daily recycling activities, CUHK has been constantly working with other environmental protection units and charity organizations to conduct Recycling Charity Activities, such as collecting used books, old clothes and forwarding them to the charity organizations. In December 2002, Charity Old Clothes Collection was held in University Staff Quarters (USQ). It is highly appreciated that 382 kg of clothes were collected. Those collections were donated to the people in Mainland China. In November and December 2001, there were 31 computers items collected in the Computer Collection Programme. All these items were collected by Green Power for reforming the usable computers and donating to the people in need such as the underprivileged students and the elderly. In February 2002, the University organized toys and CD donation activities and the profit was used for charity and environmental protection activities.

By January 2002, there are about 5.7 million mobile phone subscribers in Hong Kong and a large number of used mobile phone batteries containing toxic metal materials such as cobalt, nickel and iron are disposed of and ended up in landfills. The Environmental Protection Department launched a pilot programme in April 2002 to collect mobile phone batteries to reduce battery waste and recover resources. In response to this programme, the EMO organized a collection programme in campus. The collected batteries were shipped overseas for recycling by the Environmental Protection Department.

The green student organization, Green World, organized a campaign with a slogan "Less Rice, Thanks!" in February. This campaign aimed to reduce the food wastage and the canteen waste volume in the university. The organizer monitored the daily canteen waste volume of five university canteens and 383.9kg of canteen waste was recorded. During the campaign, exhibition boards were displayed to spread the message of food value. The staff and students were encouraged to say "less rice" to the canteen staff if they did not need so much food.

Biological wastes, chemical wastes and radiation wastes are the by-products of the scientific research. With the increasing number of research projects in the University, the volume of these wastes is also kept increasing. The University Safety & Environment Office (USEO) takes up the responsibility of management of these hazardous wastes generated on campus. All these wastes are properly stored in the biological waste collection bins and Dangerous Goods Stores if necessary and then collected by the licensed collectors. The radioactive wastes are kept in the decay stores for safe decay.

Year 年份	Chemical Wastes (Kg) 化學廢物 (公斤)	Biological Wastes(tons) 生物廢物 (噸)	
1998	19,244.0	No Data / 未有統計	
1999	15,853.5	No Data / 未有統計	
2000	24,241.1	17.0	
2001	28,18.0	26.0	
2002	34,661.0	14.0	



" Less Rice" Campaign 「飯賤? 」運動

14

Environmental factor is also taken into the consideration during the purchasing. The University encourages each department to choose the environmental friendly products for daily uses. For example, EMO adopted and laid the tiles made from the recyclable waste on the building roof for water proofing and heat insulation. Besides, biodegradable lunch boxes are being used in the staff and student canteens.

除了日常的廢物回收,本校還經常和其他環保組織、慈善團體 等合辦慈善回收活動,例如收集舊書和舊衣,轉交慈善團體。 二零零二年十二月,於大學職員宿舍募捐舊衣,共收到382公 斤,成績令人鼓舞。這些舊衣全部轉贈有需要人士。二零零一 年十一月和十二月的電腦募捐計劃,也收到三十一部電腦機 具,全部交與綠色力量,以便重新裝配成可用的電腦,贈與貧 困人士,例如家境欠佳的學生和長者。二零零二年二月,大學 又舉辦玩具和雷射唱片捐贈活動,義賣所得都用於慈善和環保 事項。

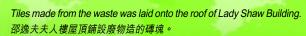
至二零零二年一月,香港約有五百七十萬人擁有手提電話,廢 棄的電池數量甚多。這些電池含鈷、鎳、鐵等有毒金屬物質, 都給送到垃圾堆填區。二零零二年四月,環境保護署展開手提 電話電池收集試驗計劃,目的是減少廢棄的電池,循環再用。 本校物業管理處響應這個計劃,在校園舉辦電池收集行動,收 到的電池都由環境保護署運往海外,供再造和再用。

二零零二年二月,學生綠色組織「綠色天地」舉辦了個「飯賤?」運動,旨在減少食物浪費,以及大學飯堂所產廢物數量。據綠色 天地調查所得,大學五個飯堂每天所產廢物共三百八十三點九 公斤。運動舉辦期間,綠色天地豎立展覽板介紹食物的珍貴, 鼓勵員生如食量不大,可著飯堂職員少給一點飯。 生物廢料、化學廢料和輻射廢料,都是科學研究的副產品。大 學研究計劃越來越多,上述廢料的數量自然也越來越多。這些 產於校園的危險廢料,由大學安全及環境事務處負責處理,妥 善存於生物廢料收集箱或危險品貯存倉內,待持牌收集商收 取。放射性廢料則貯於衰變倉,待其安全衰變。

此外,環保也是本校採購物品的重要考慮因素。大學鼓勵各部 門選購有利環保的日用品,例如物業管理處於建築物屋頂鋪設 的磚塊,即由廢料循環再造而成,可以防水、隔熱。此外,教 職員和學生飯堂也採用可分解的飯盒。



Old Computer Collection Programme 舊電腦收集計劃



Conserving Resources On Campus 保護資源

In recent years, the electricity consumption of the University kept on increasing. On average, each FTE (full-time equivalent) student consumes about 4,400 kWH annually. To curb the increasing trend in electricity consumption, the Energy Savings Task Force was established in April 1999 to organise a series of programmes to coordinate and promote energy conservation.

In Phase A Lighting Retrofit Programme, the University replaced more than 14 thousand magnetic ballasts with electronic ballasts and 900 mWh was saved per annum. For Phase B Programme, modern T5 lighting system was applied. In 2002, University started the installation and upgrade of the Building Automation System (BAS) for Academic Buildings. BAS enables close central monitoring and control on the operation of building services, particularly in the Central Air Conditioning Systems, Lighting System, Lift and Escalator System. With the assistance of BAS, systems operate in the most achievable, efficient and safe way.

The EMO also installed the Occupancy Sensor in classrooms and student hostels as well as implemented the Power Factor Correction Programme to minimize energy wastage. In 2002, the University conducted an Energy Audit to review the energy efficiency in the daily activities.

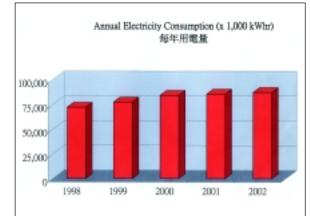
近年來,大學的用電量持續上升,校內全日制的學生,平均每 人每年耗電量為四千四百千瓦小時。要遏止電力消耗不斷增 加,本校於一九九九年四月成立了節約能源工作小組,協調和 促進能源節約計劃。

大學照明系統改裝工程第一期把一萬四千多個磁力鎮流器改為 電子鎮流器,每年因此省電九百兆瓦小時。第二期工程是安裝 先進的T5照明系統。二零零二年,本校開始在教學樓安裝、 改良建築物自動化系統。建築物設施的操作,特別是空調、照 明、升降機、電梯等系統,可藉此由中央緊密監控,達到最高 的操作效率和安全程度。

物業管理處亦在課室及學生宿舍裝設自動感應器,並進行功率 改善計劃,以減少能源浪費。此外,在二零零二年大學進行能 源審核,檢討大學在日常工作及活動的能源效益。



Electricity controller with timer is used in student hostels. 學生宿舍電力控制器設有定時開關。





Energy saving T5 Fluorescent Tubes are adopted in the laboratory in the retrofit programme. 照明系統改裝工程完竣,實驗室採用了省電的T 5 熒光管。



Sticker to remind Energy Saving 呼籲省電的貼紙

In 2002, 85,000m³ water was consumed by CUHK per month in average. To minimise water consumption, water reduction is also a high priority

Education programmes such as water conservation and energy conservation seminars were arranged for enhancing the awareness of staff. Environmental Tips in the forms of labels and stickers were designed and published to remind the students and staff to live in the environmental friendly ways.

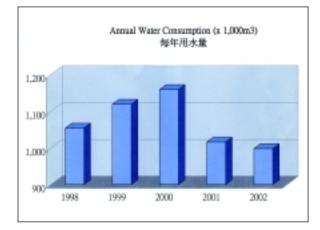
task in CUHK. Water reduction competition was launched in the student hostels to encourage students to consume less water. Compared with 2000, the annual water consumption of 2002 was reduced by 14.0%. Apart from that, a network of storm drains, sewers and grease traps are built to segregate the natural rainwater, wastewater and oily waste to prevent water contamination. A comprehensive water monitoring plan is implemented to monitor and control the water quality of the drinking water, flushing water, chilling water, swimming pool, drainage system, stream and lake for testing to meet the health and environmental parameters.

With the sand and silt from the upstream, the sediment of the whole lake is dredged up every 5 or 6 years to remove the sludge. To minimize the environmental damage and make the work more cost effective, Chung Chi Lake Improvement Work Phase I was completed in February 2002. Three cemented sediment ponds were built to facilitate the sedimentation of water input. As a result, the water is cleaner and the quality is much improved. Besides, only these three ponds (~8% of lake area) will be cleaned once for more than 10 years. Therefore, the affected area and the disturbance will be minimized.

在二零零二年,本校每月平均耗水量為八萬五千立方米。要降 低耗水量,節約用水是我們一項要務。為了鼓勵學生少用水, 學生宿舍舉辦了節省用水比賽。和二零零零年比較,二零零二 年的每年用水量減少了14.0%。此外,全校建立起一個雨水 道、溝渠、隔油器組成的排水系統,把雨水、污水和油脂廢物 分隔,並施行大規模的水質監測計劃,檢查及控制飲用水、沖 廁水、冷凍水、泳池、排水系統、河流、湖泊等的水質,以測 驗是否符合衛生和環境標準。

由於上游沖下沙礫和垃圾,崇基湖過去每五、六年就要挖除湖 底沉積的污泥。為了減少破壞環境,並使挖泥工程成本下降而 效率更高,崇基湖改良工程第一期已於二零零二年二月告竣, 築了三個水泥造的沉積物塘,以便流入的污泥沉積。湖水於是 變得較為清潔,水質大有改善。此外,三個塘(佔崇基湖總面積 百分之八)十多年才須清理一次。因此,受影響的面積和施工的 滋擾都會大大減少。

同時,我們籌辦了研討會等教育活動,以減少耗水和節省用電 為題,務求增強教職員的環保意識,此外還設計、派發印著環 保要訣的標籤和貼紙,提醒員生重視環保。





Weiyum Lake of Chung Chi College 崇基未圓湖

Promoting Green Message 推廣綠的訊息

The University has arranged many programmes for the staff, students and the public to enhance their environmental awareness. In October 2002, an Environmental Promotion Booth was set up on the Orientation Day for Sixth Formers to deliver the message of environmental protection to the secondary school students, teachers and other visitors. A Marine Life Photo Exhibition was organized by Agriculture, Fisheries & Conservation Department at Cultural Square to enhance the environmental awareness of students on marine life protection.

To promote environmental awareness in the campus community, many programmes were organised voluntarily by Green societies such as Green Post, Green World, Environmental Science Society and Geography Society. Besides, five volumes of Green Post have been published since 2000.

本校為加強員生和公眾的環保意識,籌辦了不少活動。二零零 二年十月的預科生輔導日,特設綠色校園展覽攤位,向中學 生、教師和其他公眾人士傳播環保訊息。漁濃自然護理署也於 文化廣場舉辦海洋生物圖片展覽,提高學生保護海洋生態的意 識。

為了促進全校員生的環保意識,中大綠色報、綠色天地、環境 科學會、地理學會等綠色組織,也自發籌辦了多項活動。中大 <mark>綠色報由二零零零年至</mark>今,己經出版了五期。







Ecotour to Tung Ping Chau 東平洲實地考察





Marine Life Photo



Green Post 中大綠色報



ENVIRONMENTAL PROTECTION WEEK 2002 OPENING & TREE-PLANTING CEREMONY 二零零二年環保週

The University held its Environmental Protection Week with the theme of Waste Reduction & Resources Conservation in March 2002 to raise environmental awareness among members of the campus community. The week kicked off with an opening and tree-planting ceremony. The guests at the ceremony included Mr. Donald Tong, Deputy Secretary for the Environment and Food, Mr. Thomas Chan, Director of Agriculture, Fisheries, and Conservation, Dr. Ellen Y.L Chan, Assistant Director (Waste Facilities) of Environment Protection, Mrs. Mei Ng, Director of Friends of the Earth, Dr. Ho Kin-chung, Vice-chairperson of Green Power, and Prof. Arthur K.C. Li, Vice-Chancellor.

本校二零零二年三月舉辦環境保護週,以「廢物減產及資源保 護」為題,旨在提高校內員生的環保意識。出席環保週開幕及植 樹典禮的嘉賓包括環境運輸及工務局副秘書長唐智強先生、漁 農自然護理署署長陳鎮源先生、環境保護署廢物設施科助理署 長陳英儂博士、地球之友總幹事吳方笑薇女士和綠色力量副主 席何建宗博士。本校校長李國章教授也有出席。

開幕及植樹典禮



Mr. Donald Tong delivered a speech in the ceremony. 唐智強先生於開幕禮上致詞。



Opening Ceremony of Environmental Protection Week 2002 二零零二年環保週開幕禮



Mr. Thomas Chan and the Recycle Kid rode the electric-scooter. 陳鎮源先生和環保智叻星試乘電動摩托車。



Tree-planting Ceremony of the Environmental Protection Week 2002 二零零二年環保週植樹儀式

WORKSHOP

During the week, a waste reduction workshop was conducted by the Conservancy Association to introduce the concepts of waste reduction, recycling, and Hong Kong's Waste Reduction Framework Plan. Attending the workshop were students and staff, including a large number of minor staff.

ECOTOUR

Ecotours were arranged to introduce students and staff to the rich flora and fauna on campus. The tours were led by graduate students of the Department of Geography and Resource Management. At the end of the tour, the participants planted Azalea shrubs at the University's main entrance, and a small pot-plant was given to each participant as a souvenir.

TALK

A talk and slide show was given by Ms. Li Lok Sze, a traveller with experience in both the South Pole and the North Pole many times, photographer and artist to caution the enormous influence of the pollution and global warming can result in disaster for all on the Arctic and Antarctic circles.

Other events were held during the week including a photo contest, a Flea Market with booths selling green food and second-hand goods to promote reuse and waste reduction, Debate with 'Should the Government Subsidize the Waste Recy-



The Conservancy Association conducted the workshop to illustrate waste reduction on campus. 長春社舉辦減廢工作坊,講解如何在校園減廢。



Ms. Li Lok Sze shared her experience of traveling in the South Pole and the North Pole. 李樂詩女士講述自己探索南北極的經驗。



The student guide introduced the plant species to the ecotour participants. 學生嚮導向參加生態遊者介紹植物的品種。

cling Industry?' as the motion and also a Forum entitled 'Is Incineration a Better Way to Handle the Waste Problem in Hong Kong?' with representatives from the government, Greenpeace, industry, and an expert in incineration.

工作坊

環保週舉辦期間,長春社特為本校員生開辦廢物減產工作坊, 介紹廢物減產和循環再造的觀念,以及香港的減少廢物綱要計 劃,各部門職工出席者甚眾。

生態遊

「環保週」的另一項活動是生態遊,向結伴同行的員生介紹校園 內豐富的動植物,由地理與資源管理學系畢業生領隊。遊程結 束時,大夥兒在大學正門植下許多杜鵑灌木。各人並獲贈一小 株盆栽植物,作為紀念。

演講

李樂詩女士蒞臨演講,並播映幻燈片。李女士是攝影家,也是 藝術家,曾多次往南北極探索。她警告説,北極圈、南極圈污 染和地球暖化,影響極大,可能給全世界帶來災難。

環保週的其他活動有攝影比賽;有跳蚤市場,售賣綠色食物和 二手物品,以鼓勵廢物減產和再用;有辯論比賽,題目是「港府 應補貼廢物回收工業嗎?」;還有環保論壇,論「使用焚化爐處 理廢物是否可行?」,出席者有政府、綠色力量和工業界代表, 以及一位焚化專家。



Forum entitled 'Is Incineration a Better Way to Handle the Waste Problem in Hong Kong?' 「使用焚化爐處理廢物是否可行?」論壇



Winning entry "Wasteland" of the Environmental Photo Contest 2002 二零零二年環保攝影比賽得獎作品「末路」



Flea Market Selling the Old Items 售賣舊物品的跳蚤市場



Debate on 'Should the Government Subsidize the Waste Recycling Industry?' 「港府應補貼廢物回收工業嗎?」辯論比賽

Greening The People 緣化人心

The University's mission is to assist in the preservation, creation, application and dissemination of knowledge by teaching, research and public service in a comprehensive range of disciplines, thereby serving the needs and enhancing the wellbeing of the citizens of Hong Kong, China as a whole, and the wider world community. Generally speaking, environmental education is the main arm to achieve this mission.

To enhance teacher's knowledge and help them develop methodology in teaching environmental education, Environmental Campaign Committee organized Environmental Training Workshops for Teachers in collaboration with the Chinese University of Hong Kong from October 2001 to January 2002. The training workshops introduced the basic concepts of environmental science, waste management in Hong Kong, sustainable development and environmental system in schools to teachers.

The University invites scholars and guest speakers from all over the world to exchange ideas and deliver speeches in the seminars for academics and the general public to encourage people to think about their impacts on the environment and change harmful habits. In October 2001, Prof. William Bruce Mitchell, Associate Vice-president (academic) and Professor of Geography at the University of Waterloo in Canada, delivered a public lecture entitled 'Environmental Justice: Issues, Responses, Strategies, and Initiatives to outline the concept of environmental justice and its implementation and implications in Canada with regard to concerns about toxic waste disposal, public facility siting, species and wilderness preservation, nuclear power and weapons, and the political positions and growing professional orientation of mainstream environmentalism. In December 2001, the University Safety & Environment Office invited Mr. Norman R. Ackland, a reputed genetic manipulation adviser in Australia, to deliver a speech on "Control of Gene Manipulation in Australia" to share the experience of controlling the genetic manipulated material and organisms with the students and staff in the campus in terms of environmental, health and safety.



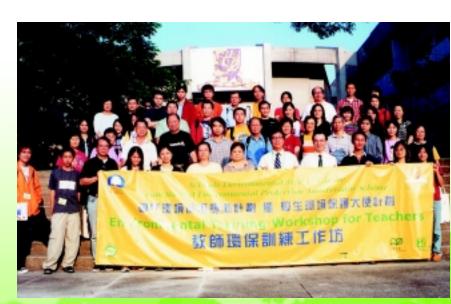
Mr. Norman R. Ackland conducted an inspection for the Genetic Manipulation Laboratory. 阿克爾先生參觀基因改造實驗室。

本校的使命,在於開展各學術領域的教學、研究和公共服務, 以協助知識的保存、創造、應用和傳播,滿足市民不同的需 求,提高市民生活的福祉,首重香港以及全中國,而後全世 界。環保教育是實現這目標的一個要訣。

為了提高教師的環保知識,並協助他們掌握環保教育的方法, 環境保護運動委員會和本校合作,由二零零一年十月至二零零 二年一月期間,舉辦教師環保訓練工作坊,向教師介紹環境科 學、香港廢物處理、可持續發展、學校環境系統等的基本觀 念。

本校還為教學人員和公眾人士舉辦研討會,邀請世界各地學者 和主講嘉賓蒞臨演講,並和出席者交流心得,促請大家注意自 己對環境的影響,改變不利環保的陋習。二零零一年十月,加 拿大滑鐵盧大學助理副校長(學務)兼地理學教授米切爾應邀,發 表公開演講,以「環境公義:問題、回應、策略、行動」為題, 扼要説明環境公義的觀念,以及這觀念在加拿大的實行和影 響,包括棄置有毒廢料、公共設施選址、保護物種和曠野、核 能和核武、主流環保運動的政治立場和越來越明顯的專業取向 等。同年十二月,大學安全及環境事務處又邀得澳洲著名基因 改造顧問阿克蘭先生蒞臨演講,講題為「澳洲基因改造之監 管」,就環境、健康、安全三方面和本校師生講述基因改造物料 和基因改造生物的監管經驗。 Prof. William Bruce Mitchell delivered a public lecture in CUHK. 米切爾教授在本校發表公開演講。





Environmental Training Workshops for school teachers 教師環保訓練工作坊