



中央研究院週報

中央研究院 發行 73 年 11 月 01 日創刊 97 年 10 月 2 日出版 院內刊物 / 非賣品 第 1190 期

本院要聞

賀物理所王嵩銘助研究員

榮獲 2008 年李氏傳統基金會獎

本院物理研究所王嵩銘助研究員榮獲 2008 年李氏傳統基金會創新研究傑出獎，將獲得美金四萬元研究獎助金及獎牌一面；王博士是以高能物理實驗方面的傑出研究貢獻受到該會肯定獲此殊榮。

學術活動

學術交流

物理研究所特聘研究員吳茂昆所長，於 97 月 10 月 16 日至 20 日赴大陸北京參加學術研討會。出國期間，所務由副所長陳志強及李世炳代理。

98 年「青年獎章」開始受理推薦

中國青年救國團為獎勵青年優良德行與傑出成就，表揚青年對國家社會之重大貢獻，特設置青年獎章。候選人年齡為 58 年 1 月 1 日以後，84 年 12 月 31 日以前出生，13 歲以上、40 歲以下之本國國民。凡具忠勇、孝友、仁愛、信義、和平、禮節、負責、勤儉、強身、助人、博愛、有恆等事蹟，足資褒揚者，均得推薦。各單位如有推薦人選，請於 11 月 14 日前備妥推薦書表、自傳（A4 紙張橫打列印，以一千字為限）及優良事蹟（含照片 2 張）等，逕送秘書組綜合科彙辦（TEL: (02)2789-9868）。青年獎章頒授辦法、推薦表請至救國團全球資訊網 <http://www.cyc.org.tw/> 首頁下載。

「中華民國第 20 屆十大傑出女青年」開始受理推薦

中國青年救國團為選拔傑出女性，藉以激勵婦女奮發向上，特設置「十大傑出女青年選拔辦法」，候選人資格為民國 58 年 1 月 1 日以後出生之 20 歲以上 40 歲以下女性，並具本國國籍者。意者請至網址：<http://www.cyc.org.tw/a04/20w.htm> 參閱選拔辦法及下載推薦表，並於 11 月 14 日前備妥推薦書表、自傳、優良事蹟及相關照片兩張，逕送秘書組綜合科彙辦（TEL: (02)2789-9868）。

2008 年陳長謙講座

主 講 人：Prof. Dennis A. Dougherty
（美國加州理工學院）

講 題：Chemistry on the Brain:
High-Precision Studies of
the Nicotine Receptor

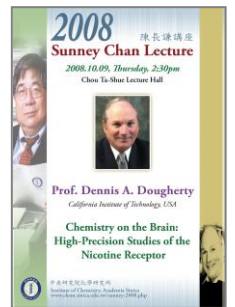
時 間：97 年 10 月 9 日（週四）
下午 2:30

地 點：本院化學研究所周大紓講堂

主 持 人：陶雨台所長

主 辦：本院化學研究所

參考網址：<http://www.chem.sinica.edu.tw/sunney-2008.php>



「第八屆當代教育哲學」研討會

日 期：97 年 10 月 17 日（週五）

地 點：本院歐美研究所研究大樓 1 樓會議廳

備 註：論文發表 30 分鐘，自由討論每人發言 3 分鐘。

參考網址：<http://www.ea.sinica.edu.tw/>

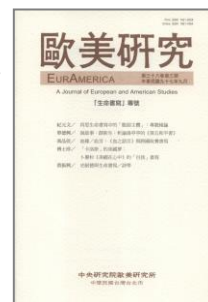
本期要目

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| 1 本院要聞 | 1 學術活動 |
| 3 公布欄 | 4 知識天地 |
| 7 讀者來函 | 7 學術演講 |

編輯委員：徐讚昇 陳儀莊 林繼文 楊文山 羅紀球
排 版：陳家瑜 楊芳祝 德伸文化事業股份有限公司
<http://www.sinica.edu.tw/as/weekly/index.html>, <http://newsletter.sinica.edu.tw/en>
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《週報》為同仁溝通橋樑，如有意見或文章，歡迎惠賜中、英文稿。本報於每週四出刊，前一週的週三下午 5:00 為投稿截止時間，逾期稿件由本刊視版面彈性處理。投稿請儘可能使用 E-mail，或送總辦事處秘書組綜合科 3111 室。

《歐美研究》季刊第 38 卷第 3 期出版



歐美研究所之《歐美研究》季刊第 38 卷第 3 期業已出版，本期特別製作「生命書寫」專號，共收錄 4 篇文章，包括 1 篇專號緒論。作者及論文名稱如下：

紀元文：再思生命書寫中的「脆弱主體」：專號緒論

單德興：說故事·創新生：析論湯亭亭的《第五和平書》

馮品佳：血緣 / 血言：《血之語言》與跨國收養書寫

傅士珍：「卡洛斯」的美國夢：卜婁杉《美國在心中》的「自我」書寫

蔡振興：史耐德與生命書寫 / 詩學

本期文章已全文上網 (http://www.ea.sinica.edu.tw/euramerica/ch_index.php)，可逕自瀏覽。有興趣者，亦可利用劃撥訂購紙本期刊。訂閱費用：一年四期（三、六、九、十二月出刊），國內訂戶新臺幣 400 元，國外訂戶美金 16 元（郵資另計）。劃撥帳號：1016448-2 / 帳戶名稱：中央研究院歐美研究所

《中國海洋發展史論文集（第十輯）》出版

人文社會科學研究中心編印之專書《中國海洋發展史論文集（第十輯）》已經出版，本書由湯熙勇先生主編，全書收錄 12 篇論文。作者暨論文名稱依序如下：

主題演講：

John E. Wills, Jr. "The South China Sea Is Not A Mediterranean: Implications for the History of Chinese Foreign Relations"

港口與貿易、移民

Roderich Ptak "Hainan and Its International Trade: Ports, Merchants, Commodities (Song (普塔克) to Mid-Ming)";

李金明〈明朝中葉漳州月港的興起與福建的海外移民〉；

陳宗仁〈晚明「月港開禁」的敘事與實際：兼論通商船、徵商稅與福建軍情之轉變〉

華商與海外貿易

鄭永常〈從蕃客到唐人：中國遠洋外商（618-1433）身分之轉化〉；

黃純艷〈轉折與變遷：宋朝、交趾、占城間的朝貢貿易與國家關係〉；

方真真〈中國、臺灣與菲律賓之間的絲綢貿易（1657-1686）〉；

張彬村〈荷蘭東印度公司時代華人的商業勢力發展〉

閩粵與臺灣的貿易活動

村上衛〈閩粵沿海民的活動與清朝—以鴉片戰爭前的鴉片貿易為中心〉；

辛德蘭（朱德蘭）〈海外淘金：日本人在臺海兩岸拓展賣淫業之研究（1895-1945）〉

海防與船隻

李若文〈海盜與官兵相生相剋關係（1800-1807）：蔡牽、玉德、李長庚之間互動的討論〉；

陳政宏〈一脈相承：臺灣筏的技術創新與特性〉

本書為專書，定價精裝 600 元、平裝 500 元。如欲進一步瞭解詳細資訊，請參見本中心網頁出版品專區：

<http://www.rchss.sinica.edu.tw/publication>；或洽詢人社中心出版室：(02)2789-8120、四分溪書坊：(02)2652-1876。



「半總統制與民主」國際學術研討會

時間：97 年 10 月 17 日（週五）至 18 日（週六）

地點：本院人文社會科學館 3 樓第 1 會議室

10 月 17 日（週五）

時間	主講人	議程與講題
8:30	Registration	
9:00	Opening Remarks	
Session I: Semi-presidentialism and its Variations		
9:15	ROBERT ELGIE (Dublin City University)	Defining Semi-presidentialism and Identifying Semi-presidential Countries
	YU-SHAN WU (IPSAS)	Varieties of Semi-presidentialism
	THOMAS GINSBURG, University of Chicago JOSÉ CHEIBUB (University of Illinois at	How Semi- is Semi-Presidentialism? On the Hybridization of Constitutional Form

時 間	主 講 人	議 程 與 講 題
Urbana-Champaign)		

10月17日(週五)

時間	主 講 人	議 程 與 講 題
Session II: The Performance of Semi-Presidentialism		
10:50	SOPHIA MOESTRUP (National Democratic Institution)	Overview of the Performance of Semi-Presidentialism: An Introduction
	CHUNG-LI WU (IPSAS)	Semi-Presidentialism, Divided Government, and Performance Evaluations
	CINDY SKACH (Harvard University)	Cohabitation and Divided Minority Government
	JIH-WEN LIN (IPSAS)	Electoral System
12:30	Lunch (IPSAS) & Conference Adjourns	

10月18日(週六)

時間	主 講 人	議 程 與 講 題
8:30	Registration	
Session III: Regional perspectives		
9:00	ROBERT ELGIE (Dublin City University)	Western Europe
	OLEH PROTSYK (European Centre for Minority Issues)	Eastern Europe
	BENJAMIN REILLY (The Australian National University)	Semi-presidentialism and Democratic Development in East Asia
	SOPHIA MOESTRUP (National Democratic Institution)	Semi-presidentialism in Africa: Patterns and Trends
Session IV: Country perspectives A		
11:10	PETRA SCHLEITER (University of Oxford)	Russia: The Benefits and Perils of Presidential Leadership
	YU-SHAN WU, IPSAS JUNG-HSIANG TSAI (National Chung-Cheng University)	Taiwan—Success, but Imperfect
	IAIN MCMENAMIN (Dublin City University)	Semi-presidentialism and Democratization in Poland
Session V: Country perspectives B		
14:00	KIMITAKA MATSUZATO (Hokkaido University)	Semi-presidentialism and Parliamentary Oligarchy in Post-Orange Ukraine
	LINDA KIRSCHKE (Princeton University)	Gabon (or Senegal, Niger, Madagascar)
	YU-CHUNG SHEN (IPSAS)	Semi-presidentialism in Weimar Republic: A Failure Attempt on Democracy
Session VI: Evolution of Semi-presidentialism?		
15:30	WILLIAM CROWTHER (University of North Carolina at Greensboro)	Moldova – Exiting SP
	CARLOS JALALI (Universidade de Aveiro)	Portugal – Change from One SP Type to Another
	ŞULE ÖZSOY (Galatasaray University)	What Does Turkey's New Choice of Popular Presidential Elections Mean?
17:00	Conference Concludes	

主辦單位：本院政治學研究所籌備處

參考網址：<http://www.ipsas.sinica.edu.tw/newsdetail.php?newsid=82>

公布欄

您不可不知的權益：本院編制內職員健康檢查補助

本院編制內職員(不含技工、工友)年滿40歲以上，每2年補助1次健康檢查費用，每次最高新臺幣3,500元，可與本院當年度之員工健康檢查併同辦理，或得以公假登記(限1日)自行前往醫療院所檢查。

相關訊息請至本院人事室網站→服務園地→各項權益→健康檢查專區查詢。

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知識天地

(本文作者僅提供英文稿)

Carbonation and Acidification of the Backyard Waters of Taiwan under Rising Atmospheric CO₂

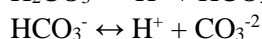
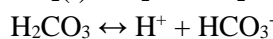
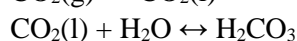
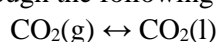
黃天福特聘研究員兼副主任 (環境變遷研究中心)

While there have been fluctuations in the concentration of atmospheric CO₂ through out geologic time, its rate of increase since the advent of the industrial revolution in about 1750 has been much accelerated. Thus, in the pre-industrial time between 1000 and 1750, the concentration of atmospheric CO₂ varied only within a narrow range of 275 to 285 ppm, and without a definitive systematic increasing trend. In the next 200 years, it increased steadily by some 50 ppm, or at a rate of about 0.25 ppm/year. In the recent years, between 1995 and 2005, that rate of increase has accelerated dramatically to 1.9 ppm/year, or about eight fold of that in those previous 200 years (Forster et al., 2007). The present concentration of 380 ppm is unprecedented in at least the last 650,000 years (Jansen et al., 2007). Concomitantly, the average global atmospheric temperature also increases at an ever quickened pace, at ~0.007 °C/year over the last 100 years and at twice that rate, or 0.013 °C/year, in the last 50 years (Trenberth et al., 2007). It is now generally accepted that this recent rise in the concentration of atmospheric CO₂ is linked to the ever accelerating emission of anthropogenic CO₂ to the atmosphere through the use of fossil fuel, cement production, and changes in land use practice. Furthermore, it is likely that the increase in the concentration of atmospheric CO₂ has contributed to the rising average global temperature which can in turn lead to changes in global climate (IPCC, 2007).

Although the observed elevation in the concentration of atmospheric CO₂ is obviously significant, it could have been even more drastic as recent estimates (Sabine et al., 2004) indicate that only 39-48% of the anthropogenic CO₂ that has been released to the environment during the anthropocene can be found in the atmosphere. A substantially similar amount, about 28-34%, has been sequestered in the ocean so that the partition of the anthropogenic CO₂ is a major determinant of the concentration of atmospheric CO₂. Hence, the ocean is a critical player in regulating the concentration of atmospheric CO₂, and, by extension, global climate. Furthermore, Sabine et al. (2004) also reported that the strength of this oceanic sink might be temporally variable and it has apparently shrunk in recent years as it can only account for a smaller fraction, about 26%, of the anthropogenic input between 1980 and 1999. Thus, a thorough understanding of the marine carbon cycle, its temporal variability and its coupling to the atmospheric processes is essential for predicting the future level of atmospheric CO₂ and climate change.

In view of this need, the international oceanographic community initiated the Joint Global Ocean Flux Study (JGOFS) under the auspices of the Scientific Committee on Oceanic Research (SCOR) and the International Geosphere and Biosphere Program (IGBP) (SCOR, 1992; McCarthy, 2000; Buesseler, 2001) in the eighties. Through this study, two time-series stations: BATS (the Bermuda Atlantic Time-series Study) and HOT (Hawaii Ocean Time-series), have been established in the North Atlantic and the North Pacific in order to directly document the temporal variations in and the response of the marine carbon cycle under a rising concentration of atmospheric CO₂ (USGOFS, 1986; Wiebe et al., 1987). These time-series stations are maintained to this date. Taiwan joined this international effort and established a time-series stations of its own at 18.3°N and 115.5°E in the northern South China Sea (Fig. 1): SEATS (the SouthEast Asian Time-series Study) in 1999 (Wong et al., 2007a). SEATS is a formally recognized component of JGOFS. Its initial findings have been published in a recent dedicated special issue (Wong et al., 2007b) and some of them are reported here.

Carbon dioxide is a soluble reactive gas. When it comes into contact with water, it enters the aqueous phase through the following chemical equilibria:



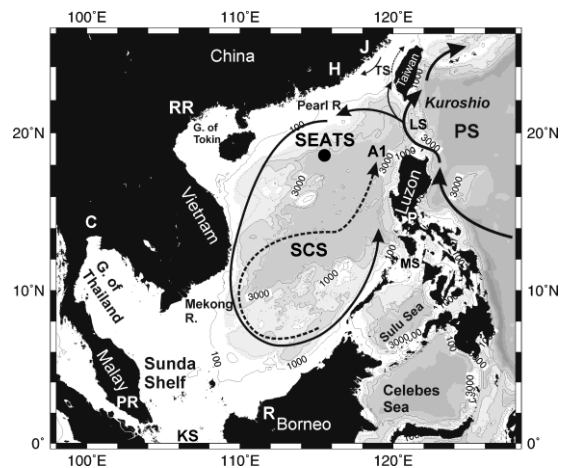
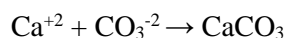


Figure 1:

The study site of the SouthEast Asian Time-series Study (SEATS) at 18.3°N and 115.5°E in the tropical northern South China Sea (From Wong et al., 2007a). The solid line in the South China Sea, SCS, represents the basin wide cyclonic gyre in the winter. The dashed line indicates the eastward jet off the coast of Vietnam and the anticyclonic gyre over the southern half of the Sea during the summer. The Kuroshio and its intrusions into the northern South China Sea are also shown schematically around the Luzon Strait. KS – Karimata Strait; LS – Luzon Strait; MS – Mindoro Strait; PS – Philippine Sea; TS – Taiwan Strait. The locations where the major rivers reach the SCS are also shown: C – Chao Phraya; H – Hanjiang; J – Jiulongjiang; P – Pasig River; PR – Pahang River; R – Rajang River; RR – Red River.

Thus, an increase in the concentration of atmospheric CO₂ will tend to push the reactions to the right. As a result, for the ocean as a whole, there will be an increase in the concentrations of CO₂(l), which is expressed as the fugacity CO₂ in the aqueous phase or fCO₂, total dissolved CO₂, which is the sum of all the inorganic carbon species or TCO₂, and in H⁺. Hence, in general, the ocean will be carbonated and acidified under a rising concentration of atmospheric CO₂. However, regionally, the changes can be much more variable spatially and temporally as fCO₂ can vary widely in response to changes in the local environmental conditions. On the one hand, cooling and freshening of the water, and the photosynthetic uptake of CO₂ can lower fCO₂ and enhance the invasion of atmospheric CO₂ to the ocean. On the other hand, warming and increasing the salinity of the water, and the respiratory production of CO₂ can raise fCO₂ and lead even to the evasion of CO₂ from the ocean to the atmosphere. Thus, both physical processes, such as summer surface warming, winter surface cooling, precipitation, evaporation and sea ice formation, and biological processes, such as photosynthesis and respiration, can affect the regional air-sea exchange of CO₂. Furthermore, calcareous organisms are plentiful in the ocean. The formation of calcium carbonate:



removes TCO₂ and alkalinity from the water. The resulting water becomes more acidic. This leads to an increase in fCO₂ and the invasion of atmospheric CO₂ will be impeded. The dissolution of calcium carbonate would have the opposite effect. Thus, regional air-sea exchange of atmospheric CO₂ is affected not only by biological activities in general, but all the specific types of organism that may be involved.

Variations in the average TCO₂, TCO₂ corrected to a constant salinity or NTCO₂, fCO₂ and fCO₂ corrected to a constant temperature or NfCO₂ in the mixed layer at the SEATS station between September 1999 and October 2003 are shown in Fig. 2 (Tseng et al., 2007). These initial results indicate that, intra-annually, during the winter, fCO₂ reached a minimum, CO₂ invaded into the Sea from the atmosphere, while TCO₂ and NTCO₂ reached a maximum. These phenomena were consistent with the effect of surface cooling and the accompanying enhanced vertical mixing, which could bring the saline and TCO₂-rich subsurface water to the mixed layer. In contrast, during the summer, fCO₂ reached a maximum, CO₂ evaded from the Sea to the atmosphere, while TCO₂, NTCO₂ and NfCO₂ reached a minimum. These could have resulted from the combined effects of surface heating and photosynthetic activities. Nevertheless, when the invasion and evasion of CO₂ are summed together, the annual net exchange of CO₂ at the SEATS station over the year was negligible, indicating that the northern South China Sea is neither a significant net sink nor net source of atmospheric CO₂. Superimposed on these intra-annual

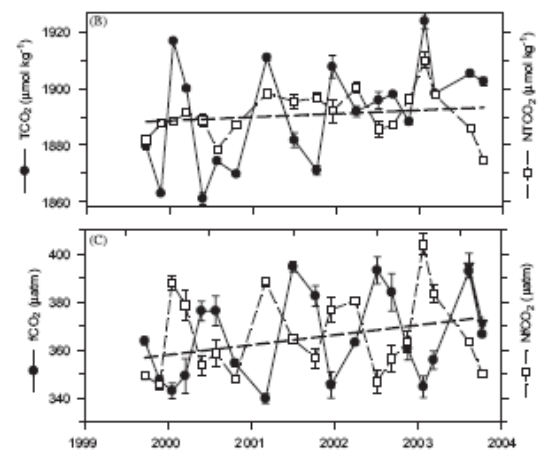


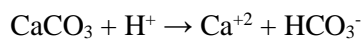
Figure 2:

Variations in the average total dissolved CO₂ (TCO₂), TCO₂ corrected to a constant salinity (NTCO₂), fugacity of CO₂ (fCO₂) and fCO₂ corrected to a constant temperature (NfCO₂) in the mixed layer at the SEATS station between September 1999 and October 2003. Thick dashed lines indicate the best fit lines for NTCO₂ and fCO₂ by a linear regression analysis. (From Tseng et al., 2007)

changes were subtle trends of inter-annual increase in NTCO_2 and fCO_2 . These trends are consistent with the expected response of the ocean to a steadily rising concentration of atmospheric CO_2 . Similar trends have also been found at BATS and HOT. Together, they suggest that the effect of rising atmospheric CO_2 can now be felt by the oceans globally. In fact, it has reached the backyard waters of Taiwan.

While the time-series records at SEATS are still too short for making definitive quantitative conclusions, the results from 1999 to 2003 indicate that NTCO_2 and fCO_2 were rising at rates of $1.5\mu\text{mol/kg/yr}$ and $4.2\mu\text{atm/yr}$ respectively. If these rates can be confirmed, they indicate that the total dissolved carbon content in the northern South China Sea is increasing in the absence of a significant local invasion of atmospheric CO_2 . Furthermore, the fCO_2 is increasing at more than twice the rate of the corresponding increase in the concentration of atmospheric CO_2 . These apparently paradoxical phenomena need to be confirmed and accounted for in future studies.

The corresponding pH at 10 m in the mixed layer at the SEATS station suggests that pH might have decreased by 0.003 pH unit per year between 1999 and 2003. Again, if this trend can be confirmed, it indicates that the northern South China Sea is being progressively acidified as expected as a result of the rising atmospheric CO_2 . The waters around Taiwan are rich in coral reef ecosystems, which are globally significant benthic calcareous ecosystems. The lowering of the pH will reduce the saturation state and enhance the dissolution of calcium carbonate through the reaction (Feely et al., 2005):



The crystalline form aragonite, in which the corals form their skeleton, is especially susceptible to this acidic attack. The observations at the SEATS station suggest that the aragonite saturation state in the northern South China Sea has been reduced by 15 to 20% since the pre-industrial time (Chou et al., 2007). The present saturation state is at the low end of the range that is considered adequate for coral calcification but it is projected to become inadequate by 2040 (Kleypas et al., 2006). Thus, the stress that stems from the continued acidification of the ocean by the rising atmospheric CO_2 , together with that from the rising seawater temperature as a result of global warming and from possible local pollution, may potentially become devastating to the survival of these precious ecological assets of Taiwan within the foreseeable future.

References

- Buesseler, K.O. (2001) Ocean biogeochemistry and the global carbon cycle; An introduction to the U.S. Joint Global Ocean Flux Study. *Oceanography* 14, 5.
- Chou, W.C., D.D. Sheu, B.S. Lee, C.M. Tseng, C.T.A. Chen, S.L. Wang and G.T.F. Wong (2007). Depth distribution of alkalinity, TCO_2 , and $\delta^{13}\text{C}_{\text{TCO}_2}$ at SEATS time-series site in the northern South China Sea. *Deep-Sea Res. II*, 54, 1469-1485.
- Feely, R.A., C.L. Sabine, K. Lee, W. Berelson, J. Kleypas, V.J. Fabry and F.J. Millero (2004). Impact of anthropogenic CO_2 on the CaCO_3 system in the oceans. *Science*, 305, 362-366.
- Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland (2007). Changes in atmospheric constituents and in radiative forcing. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marguis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York.
- IPCC (2007) Summary for policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. [Solomon, E., D. Qin, M. Manning, Z. Chen, M. Marguis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York.
- Jansen, E., J. Overpeck, K.R. Briffa, J.-G. Duplessy, F. Joos, V. Masson-Delmotte, D. Olago, B. Otto-Biesner, W. R. Peltier, S. Rahmstord, R. Ramesh, D. Raynaud, R. Rind, O. Solomina, R. Villalba and D. Zhang (2007). Paleoclimate. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marguis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York.
- Kleypas, J.A., R.A. Feely, V.J. Fabry, C. Langdon, C.L. Sabine and L.L. Robbins (2006). Impacts of Ocean Acidification on Coral Reefs and Other Marine Calcifiers: A Guide for Future Research, report of a workshop held 18-20 April 2005, St. Petersburg, FL., sponsored by NSF, NOAA and the U.S. Geological Survey, 88 pp.
- McCarthy, J. J. (2000) The evolution of the Joint Global Ocean Flux Study project. In: *The Changing Ocean Carbon Cycle*, Hanson, R. B., Ducklow, H. W., Field, J. G., editors, Cambridge University Press, Cambridge, UK, pp. 3-15.
- SCOR (1992) Joint Global Ocean Flux Study Implementation Plan. JGOFS Report No. 9. Scientific Committee on Oceanic Research, International Council of Scientific Unions. Johns Hopkins University, Baltimore, MD. 75 pp.
- Sabine, C.L., R.A. Feely, N. Gruber, R.M. Key, K. Lee, J.L. Bullister, R. Wanninkhof, C.S. Wong, D.W.R. Wallace, B. Tilbrook, F.J. Miller, T.-H. Peng, A. Kozyr, T. Ono and A.R. Rios (2004). The oceanic sink for anthropogenic CO_2 . *Science*, 305, 367-371.
- Trenberth, K.E., P.D. Jones, P. Ambenje, R. Bojariu, D. Easterling, A. Klein Tank, D. Parker, f. Rahimzadeh, J.A. Renwick, M. Rusticucci, B. Soden and P. Zhai (2007). Observations: Surface and atmospheric climate change. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marguis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York.
- Tseng, C.-M., G.T.F. Wong, W.-C. Chou, B.-S. Lee, D.-D. Sheu and K.-K. Liu (2007). Temporal variations in the carbonate system in the upper layer at the SEATS station. *Deep-Sea Res. II*, 54, 1448-1468.
- USGOFS (1986) USGOFS Report 3. Report of a Workshop on Upper Ocean Processes. U.S. Joint Global Ocean Flux Study (JGOFS) Planning Office, Woods Hole, MA, 141 pp.

14. Wiebe, P.H., C.B. Miller, J.A. McGowan and R.A. Knox (1987) Long time series study of oceanic ecosystems. EOS 44, 1178-1190.
15. Wong, G.T.F., T.-L. Ku, M. Mulholland, C.-M. Tseng and D.-P. Wang (2007a) The SouthEast Asian Time-series Study (SEATS) and the biogeochemistry of the South China Sea – An overview. Deep-Sea Res. II, 54, 1434-1447.
16. Wong, G.T.F., T.-L. Ku, M. Mulholland, C.-M. Tseng and D.-P. Wang (eds.) (2007b) The SouthEast Asian Time-series Study (SEATS) and the Biogeochemistry of the Northern South China Sea. Deep-Sea Res. II, 54, 1433-1644.

※各期知識天地文章請逕於本院網頁：<http://www.sinica.edu.tw/>「常用連結」之「週報〈知識天地〉」項下瀏覽。※

讀者來函

誰憐樹？ - 院內環境維護典範的建立

陳章波研究員 (生物多樣性研究中心)

進了中研院大門，第一個左轉，農科大樓壓迫而來，幸好建築物北側的一排樟樹，柔和了建築物剛強的面貌。幾年前，這裡還是大家黃昏打排球、放鬆身心的好地方，也是紫嘯鸚冬季撫育下一代的好地方。

在規劃設計大樓的初期，有考慮周邊大樹的去留，調查、標記了可以原地保留的或需要移植的大樹。不幸其中的一株要原地保留的大樟樹，因為建築設計時設想不夠周密，又在施工時未有妥善移樹計畫下就被移植了，而今它已在死亡邊緣。近日施工單位終於同意以二十幾萬的代價賠償了這一棵樹的命，設計單位也被計一點之處罰，專案管理單位也為督導管理不周道歉。這是一個新的典範，誰對周邊生命漠視，做錯了，就要受到懲罰。

劃設機車停車位是另一件值得省思的事。新建築物必須設定一定數量的停車位 (汽車與機車)。然而院裡早就規定不得行駛機車，可是，這座大樓仍然要依法劃定一百八十個機車位，一百四十個則需劃設於地面。機車停車位本來規劃在植微所西側綠地，現在要變更一部份約六十多個到北側那排樟樹跟大樓基地之間的空地上，樟樹又受到欺壓。這引發幾個問題，第一、建築師當初考慮不夠周詳；第二、不劃，使用執照拿不到；劃了，卻是白劃，因為它是永遠不會被用到的。取得執照以後，那些植草磚的命運呢？仍然留在那兒，還是拆除呢？這不僅浪費人力、時間與材料，也造成了很唐突的地景。以後人們走過這兒，一定納悶為什麼舖了植草磚？第三、院方沒有以院的高度，全方位角度來思考、解決問題；使用單位也很本位地漠視公共議題。總辦事處一向認為應由大樓使用單位在大樓基地周邊處理，既然機車不准在院裡行駛，院方就應該在院區外劃設，或為什麼不跟發執照的檢核單位溝通呢？

一排樟樹是院內整體性的景觀、生命倫理的展現，不只是大樓邊緣一角。院內不少同仁終日浸淫在專業的研究領域裡，對於呼吸與共的環境無暇感受，對一棵樹它本身的生命力及所共生的鳥獸的生命力視而不見，這現象呼應了俗語所說的：「一粒米養千萬種人」，大家的價值觀不一樣，習以自身的存有來觀看事物。大家都想把對的事情做好，在協商過程中卻沒有創意和調適，只堅守本位，事情當然就會有偏差。

眼看高樓搭起，樹枯了，植草磚下面不知又死了多少蟬？

學術演講

日期	時間	地點	講員	講題	主持人
10/2(四)	14:00	人文館南棟 11F 1101 演講室	Dr. S.A. Gurvitz (Weizmann Inst. of Science, Israel)	Markovian and non-Markovian Dynamics in Quantum Transport and Quantum Measurements	馬尚德 副研究員
		地球所 3 樓演講廳	劉玲根博士 (地球所退休研究員)	Origin and Early Evolution of the Atmospheres and Oceans on the Terrestrial Planets	林正洪 副所長
10/3(五)	10:30	統計所蔡元培館 2 樓 208 演講廳	Prof. Wolfgang Härdle (Humboldt-Universität zu Berlin, Germany)	Time Series Modelling with Semiparametric Factor Dynamics	丘政民 副研究員
10/6(一)	11:00	原分所 4 樓 張昭鼎紀念講堂 (臺大校區)	Prof. Renato Zenobi (ETH, Switzerland)	High-mass MALDI-MS of Protein Complexes	陳應誠 助研究員
	12:00	天文所籌備處 會議室 (臺大凝態科學與物 理學館 716 室)	呂聖元助研究員 (天文所籌備處)	TBA	

Fig.2
失巢效應
(Anoikis)

期	時間	地 點	講 員	講 題	主 持 人
數 理 科 學 組					
	14:00	統計所蔡元培館 2樓 208 演講廳	刁錦寰院士 (美國芝加哥大學)	漫談 60 年代 Wisconsin 大學的 統計發展	丘政民 副研究員
10/6(一)	15:30	化學所 A108 會議室	Prof. Michael G. Richmond (Univ. of North Texas, USA)	Kinetic and Isotope Studies on C-H Bond Activation in Diphosphine and a-Diimine Ligands at Triosmium Clusters	徐新光 研究員
10/8(三)	14:00	環變中心演講廳 (人文館南棟 11 樓)	張志忠助研究員 (環變中心)	Variability of Anthropogenic Ozone Depleting Substances as an Indication of Emissions	
生 命 科 學 組					
10/3(五)	11:00	分生所 1樓演講廳	Prof. Mark A. McNiven (Mayo Cancer Center at Minnesota, USA)	Membrane-Cytoskeletal Dynamics in the Metastatic Process	張 雯 研究員
	10:30	細生所 2樓會議室	楊定一副教授 (陽明大學)	Nitric Oxide-mediated Neuroprotective Mechanism	易玲輝 助研究員
		基因體中心 1樓演講廳	Dr. R. Graham Cooks (美國普杜大學)	Mass Spectrometry for Biological Imaging	陳仲瑄主任
10/6(一)	11:00	生醫所地下室 B1B 演講廳	張 程研究員 (生醫所)	A New Scenario for Negative fMRI Signals: Role of Vasoconstrictive Neurotransmitters.	
		分生所 1樓演講廳	張嘉升研究員 (物理所)	Some of Our Approaches in Advancing Bioimaging with TEM and SPM	王廷方 研究員
	16:00	化學所 A207 會議室 錄影廣播： 南港軟體園區 19 樓 F 棟會議室	Prof. Shih-Shiung Chen (Ming Dao Univ.)	Genetic Engineering vs. Organic Agriculture	楊寧蓀 特聘研究員
	11:00	植微所 106 會議室	文啟光博士 (中國科學院)	Dissecting and Exploring the Ethylene Signal Transduction in Arabidopsis	吳素幸 副研究員
10/7(二)		分生所 1樓演講廳	Dr. Thomas A. Kost (GlaxoSmithKline, USA)	Applications of BacMam in Drug Discovery: Assay Development and Protein Production	趙裕展 研究員
	15:30	基因體中心 1樓演講廳	黃太煌特聘研究員 (生醫所)	Structural Biology—The NMR Approach	楊安綏 副研究員
10/8(三)	10:30	基因體中心 1樓演講廳	Dr. R. Graham Cooks (美國普杜大學)	Mass Spectrometry for Biological Imaging	陳仲瑄主任
人 文 及 社 會 科 學 組					
	14:00	人社中心 第 1 會議室	黃耀民先生 (臺灣大學)	Pennies From eBay: The Determinants of Price in Online Auctions	
10/3(五)	14:30	社會所 802 會議室 (人文館南棟)	汪宏倫副研究員 (社會所)	從《戰爭論》到《新歷史教科書》： 試論戰後日本民族主義的怨恨心態及其 制度成因	
10/6(一)	15:00	文哲所 3樓討論室	崔衛平教授 (北京電影學院)	行走的主人公 - 兼論中國電影中的現 代性議題	楊小濱 副研究員
10/7(二)	14:30	經濟所 B 棟 1 樓 B110 會議室	Prof. Vincent P. Crawford (Univ. of California at San Diego, USA)	New York City Cabdrivers' Labor Supply Revisited: Reference-Dependent	
10/8(三)	15:00	民族所大樓 第 3 會議室 2319 室	Prof. Syed Farid Alatas (National Univ. of Singapore, Singapore)	An Agenda for the Social Sciences in Asia	
10/9(四)	14:00	政治所籌備處 會議室 B (人文館北棟 5 樓)	吳親恩助研究員 (政治所籌備處)	經濟指標與民主體制運作評價：東亞 國家的觀察	

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