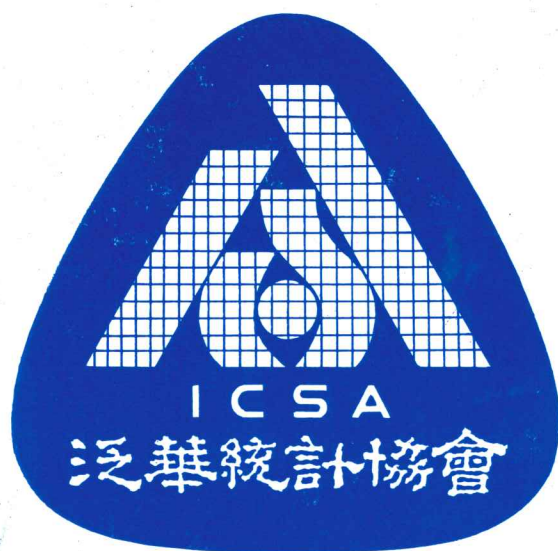


泛華統計協會 會刊

International Chinese Statistical Association



Bulletin

July 1991

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編者的話

在上一期的會刊裡我們提到會刊基本上是一年發行一次，出刊後，來稿相當踴躍，因此我們決定今年度再出一期。

關於上期發刊詞中有關來稿打字的事，基本上我們是希望由作者在當地打妥，這樣可以節省出刊的時間，但是如果當地安排打字有困難的話，手寫的稿件還是很歡迎的。

會員通訊的來件中、英都有，在編排上我們是將中文來件排在英文來件前，在同類來件中再依英譯姓名的字母順序排列。

今年能夠第二次出刊得歸功於賜稿的作者們的踴躍支持，在此特別向各位作者們致謝。

編輯人員：

藍光國 許建倫 鄭惟孝

陳剛 曹以民 林崑峰

靳開元 羅昭容 林彩雲

會務簡報

羅昭容

去年十二月十五日到十七日泛華統計協會在香港舉辦了首次的國際學術研討會，會議非常成功，參加者來自美、加、及亞洲各地區，在一月會刊裡，傅權、鄭惟孝曾寫了一篇研討會記要，本期附有香港會議的日程表。

在香港開會期間，本人與赴會的理事們及出席會議的各位，對泛華今後的工作，曾作了廣泛的討論與商議，得到了許多的寶貴意見，其中可立即付諸實行的為：（一）. 增加會刊發行次數。（二）. 舉辦第二次國際學術研討會。

本期為發行半年一期會刊的開始，今後是否成功，完全要靠會員們鼎力支持（人力，財力均歡迎），尤其希望多多投稿。

致於舉辦第二次國際學術會議，已經理事會正式投票通過，將於1993年12月下旬在台灣舉行，本人已取得傅權及鄭光甫教授之同意，請傅權為會議的主任委員，鄭光甫為台灣方面的總負責人（Chairman of local organizing committee）。

另外在香港討論的一項是言語問題，應該用何種語言演講？這是大家非常關心的一個問題，這不但對演講而且對會刊稿件都有影響，會刊的稿件是中、英文都收，但有不會中文的讀者來函建議用英文發刊。語言問題牽涉太廣，包括財力，人力的因素在內，在目前我們還沒有一個十全十美的解決辦法。

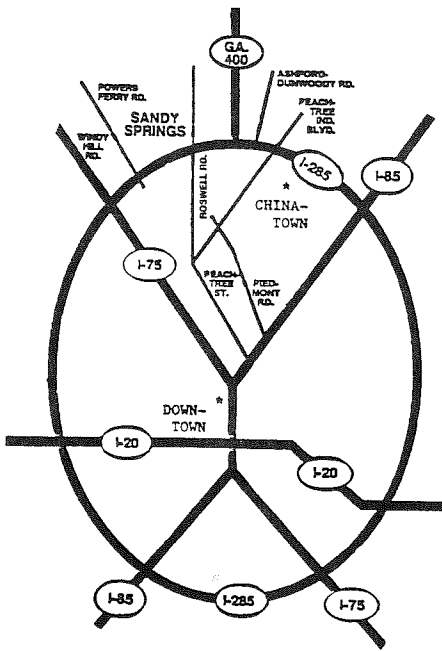
在財力方面我們非常感謝許多會員的慷慨捐款（名單將在一月會刊登出），在此謹感謝下列機構對泛華的大力支持：

行政院青年輔導委員會
北京中國科學院應用數學研究所
台北中央研究院

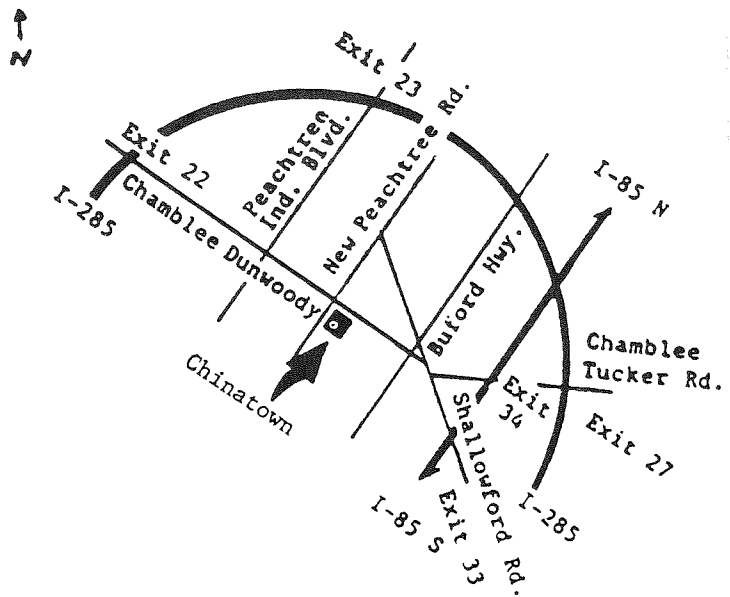
這對我們協會的發展有極大的幫助和鼓勵。

一九九一年ATLANTA年會

ICSA 1991 年年會定於八月二十一日 (星期三) 下午五時至六時在 ATLANTA CHINESE COMMUNITY CENTER (華人活動中心) 舉行, 會後在福臨門海鮮酒樓餐聚。華人活動中心及福臨門均在 ATLANTA 中國城 (CHINATOWN) 內, 中國城在 DOWNTOWN 東北郊, 離 ASA 開會的旅館約有十二哩路。地址是 NEW PEACHTREE ROAD & CHAMBLEE DUNWOODY ROAD 的交口, 請見下圖:



A. 方向圖



B. 區域圖

DIRECTIONS

- (一) 開車：最保險的走法是從 DOWNTOWN 向北走上 FREEWAY 185 N. 大約十二哩以後轉上 1285 W. 兩哩以後從 23 號出口出來，左轉上 PEACHTREE IND. BLVD. 大約一個半哩路後左轉上 CHAMBLEE DUNWOODY ROAD 到第二個紅綠燈時，CHINATOWN 即在右手邊。
- (二) 坐 MARTA：ATLANTA 的地下火車系統 MARTA 在 DOWNTOWN 的 PEACHTREE STREET 上有站。(站名是 N1 PEACHTREE CENTER，離 ASA 開會的旅館約有兩個 BLOCKS。)火車班次約十二分鐘一班，上下班時六分鐘一班，車費一元。進站後坐北上車，(NORTH-BOUND)，在北九(N9) CHAMBLEE 站下車。(CHAMBLEE 是北上車的終點站)。走下月台後馬上從出口出來(不要繞到後面的出口)，左轉，穿過 PARKING LOT 即是 NEW PEACHTREE ROAD，走五分鐘後 CHINATOWN 在路右邊，華人活動中心在裡面，經過頂好超級市場後即可看到。從進站等火車至到達華人活動中心的時間，大約在40分鐘左右。

餐 會

餐聚訂在八月二十一日下午七時開始，大人每人收二十元(包括小費與稅在內)。菜單預定為：蟹肉魚肚羹，琵琶鴨，椒鹽焗蝦，瑤柱扒豆苗，脆皮子雞，紅燒海參，中式牛柳，薑蔥焗大蟹，清炒芥藍，蒸石斑魚，揚州炒飯。十二歲以下兒童每人十元，菜單另定。

因為有些菜必須前一天開始準備，餐館需要確定人數，要參加的朋友務請於八月二十日(星期二)中午以前，在 ASA 會場佈告欄內的報名單上登記。事後報名或臨時參加者，我們不敢保證會有座位。謝謝大家合作。

PROGRAM COMMITTEE

張健天、許淪生、董永良

介紹美國國家健康研究院 陳 達

國家健康研究院 (National Institutes of Health) 是美國國立的醫學研究機構。裡面包括有十三個研究所 (Institute), 國家醫學圖書館 (National Library of Medicine), 以及國家護理研究中心 (National Center for Nursing Research)。研究院佔地三百畝, 坐落在華府的西北郊區, 在馬利蘭州的 Bethesda, 離開華府市中心僅十哩。

研究院的歷史可以追述到 1887 年, 但是大規模的擴張是在第二次世界大戰之後。目前全部成員有一萬五千人, 其中三千人有醫學或者科學博士學位。目前每年國會通過撥款給研究院七十億研究經費, 其中五十六億是支配給全國各地大學, 醫學院, 及研究中心使用, 其餘是研究院自己本身的研究經費。從 1968 年到 1976 年間, 有四位研究院的科學家拿到了諾貝爾醫學及化學獎。目前在 AIDS 的 HIV 病毒的發現, AIDS 的治療藥品 AZT 的臨床試驗, 以及變更基因治療 (Gene Therapy) 方面, 研究院的科學家都具有領導地位。

在生物統計方面, 研究院的統計學家也有很多貢獻。在 1990 年八月份的 *Statistics in Medicine* 裡面, 有三篇文章談到從 1950 年以來, 在研究院的統計學家像 Mantel, Cornfield, Schneiderman, Halperin, Greenhouse, Gehan, Zelen, 在生物統計的各方面進展上有很大的貢獻。統計方法在醫學科學上的研究有很重要的地位, 所以目前在研究院的統計學家將近八十多位分散在各個研究所裡面。最大的癌症研究所, 裡面也有將近四十位的統計學家, 分散在不同的部門裡 (Division)。在臨床試驗方面, 就注重 Clinical Trial Methodology 的研究, 在流行病學方面, 就注重

Observational Study 的研究。一般說起來，研究的氣氛與在大學一樣。

中國的統計同仁在研究院一共有九位，裡面有五位是最近兩年才加入的。我們目前與在 FDA 以及其他在華府地區的中國統計同仁，有每個月定期的學術討論會，時間是每個月第一個星期六的早上。內容是專題演講或者是研讀新書，我們希望可以彼此切磋，共同研究。會後有時我們也一起用中餐，增進感情。如果有外地的同仁到華府來，願意來參加我們的學術討論會。我們非常歡迎你，請與我們聯絡。

穩健性統計方法會遺棄異常數據嗎？ 何旭銘
(Do robust methods throw out outliers?)

在1990年第四期的數理統計學會簡報 (IMS Bulletin) 上，普克希 (Pukelsheim) 在給編者的信中詳細的說明了有關美國國家航空和宇宙航行局 (NASA) 早年使用穩健性統計方法而沒能利用異常數據發現南極臭氣一事。結果表明，問題並不出在統計方法上。

然而，這則在統計界的故事說明穩健性統計方法仍被一些人所誤解，他們認為使用穩健性方法就等於遺棄異常數據，在此我想對這一問題略作解釋。

誠然，穩健性統計理論和方法是爲了在最大程度上保證統計分析在有異常數據或數據污染時仍然有效。眾所周知，在很多數據收集或記錄時錯誤是難免的。經典的統計方法在有一、二個錯誤的異常數據時便可能有異常表現。譬如，在線性回歸 (linear regression) 分析中，經典的最小二乘法 (least squares method) 在有異常點或機桿點 (leverage point) 時會給予極不可靠的結果。而想用各數據點對於最小二乘線的殘差 (residuals) 找出異常點也是徒勞的，因爲最小二乘線能被異常點所左右。在異常點的殘差反而會偏小。

在八十年代有不少穩健性方法出籠，一個顯著的例子是最小平方中值 (least median of squares) 法。最小平方中值法能大大降低異常點對結果的影響，但這樣的穩健性方法會不會遺棄異常點？異常點有時是提供科技信息和發現的關鍵。

舉一個比較極端的例子以簡化說明。最小平方中值法具

有準確貼合性質 (exact fit property)。當十個數據點中有五個以上落在一直線上時，最小平方中值線將通過這些點，無論其它點在什麼位置。在這種情況下，用穩健性方法得到的方差估計將是零。如果就此認為你已經得到了一個完美的線性貼合，那就錯了。忽略其它點(可能是異常點)的不是方法本身，而是使用者。

其實，一條最小平方中值線產生的殘差經過方差的標準化 (Standardization) 能用來判斷那些是可能的異常點。當十個數據點有五個以上在一條直線上時，標準化的殘差在其它點將是無窮大，它意味著那些點可能是異常點，需要進一步分析和檢查。而這一點用經典的最小二乘法則做不到。因為各點對最小二乘線的殘差可能相差無幾。由此可見，穩健性方法不是遺棄異常點，它能對發現異常點提供可靠的依據。

當然，穩健性方法並非十全十美。上面所列舉的最小平方中值法就有一些可爭議之處。譬如，參數估計收斂慢，效率 (efficiency) 低，在高維空間中計算量太大等。

近十年來在這一學科中的發展已逐步形成了一套比較完整的理論和更好的方法。一步疊代穩健性方法 (one-step estimate) 便是一個例子。它利用一個穩健性的估計作為起始點，再經過簡單的一步疊代便可得到高效律的估計，在高維空間中計算可行的穩健性方法也在日益發展，恕不詳述。

會員通訊

Recent publications:

周賢忠 (Chow, Shein-Chung)

I and J. P. Liu are preparing a book entitled " Design and Analysis of Bioavailability / Bioequivalence Studies " for Marcel Dekker, Inc.. This book will be published early 1992.

郭美惠 (Guo, Mei-Hui)

Guo, M. H. and Petrucci, J.D.. On the null recurrence and transience of a first order SETAR model. To appear in Journal of Applied Probability, 1991.

黃克歐 (Hwang, Irving)

Hwang, I. K., Shih, W. J., deCani, J. S. (1990). Group sequential designs using a family of Type I error probability spending functions. Statistics in Medicine 9, 1439-1445.

祁婉菁 (Ki, Yuen-Ching Fanny)

" Multiple Shrinkage Estimators of Means in Exponential Families " F. Ki and K.W. Tsui, The Canadian Journal of Statistics, Vol. 18, 1990.

譚外元 (Tan, Wai-Yuan)

- (1). Tan, W. Y. and Singh, Karen. (1990). A mixed model of carcinogenesis - With applications to retinoblastoma. Math Bioscience 98, 201-211.
- (2). Tan, W. Y. and Piantadosi, S. (1990). On stochastic growth process with application to stochastic logistic growth. To appear in Statistica Sinica 1991.
- (3). Tan, W. Y. and Hsu, H. (1990). A stochastic model for the AIDS epidemic in a homosexual population. To appear in Math. Population Dynamics, Chapter 24, (eds. by O. Arino, David E. Axelrod and M. Kimmel), 1990, Marcel Dekker, Inc., NY.
- (4). Tan, W. Y. (1990). A stochastic model for AIDS epidemic involving several populations and some simulation results. To appear in Math & Computer Modeling Vol. 13, in press.
- (5). Tan, W. Y. and Chen, Chao W. (1990), A multiple pathway model of carcinogenesis involving one stage models and two-stage models. To appear in Math. Population Dynamics, Chapter 31, (eds. by O. Arino, David E. Axelrod and M. Kimmel), 1990, Marcel Dekker, Inc., New York.
- (6). Book " Stochastic Models of Carcinogenesis" 1990, Marcel Dekker, in press.

News:

周賢忠 (Chow, Shein-Chung)

I have recently been promoted from Senior Manager to Associate Director. I'll be in charge of Biostatistics and Data Management Department in Medical operations.

范劍青 (Fan, Jianging)

I have accept the postdoctor Fellowship at the Mathematic Sciences Research Institute at Berkeley, effectively from Sept. 1, 1991 - Sept. 1, 1992.

黃光明 (Hwang, Frank)

堵丁柱博士(科學院應數所, 現訪問 Princeton 大學計算機系)和黃光明合作證明了最短網絡問題上有名的「 $\sqrt{3}/2$ 猜測」, 贏得了美國科學院院士暨 Transactions of American Mathematics Society 總主編 Dr. R. L. Graham 提供的 \$500 獎金, New York Times(Oct 31)和 Science(Nov. 90) 雜誌皆有專欄報導。SIAM NEWS 也將有詳細報導。此證明將刊登在 Algorithmica 及 Proceedings of Academy of Science (略證) 兩刊物上。

黃徐秀 (Huang, Sue H.)

Transferred to Carter-Wallace, Inc., Princeton, NJ last Nov. 27

黃麗珠 (Hwang, Lei-Ju)

A new appointment. Assistant Professor at the Division of Biostatistics in the University of Virginia, started on July 1, 1990.

李昭勝 (Lee, Jack C.)

I have been elected as an ordinary member of the International Statistical Institute.

李作言 (Lee, Tzuo-Yan)

Start a new company named. Advanced Clinical & Epidemiological Research(ACER). It provides clinical monitoring services to pharmaceutical industries and Research Institute.

林聲溶 (Lin, Lillian)

I began serving as assistant professor of Biostatistics at Emory University's New School of Public Health in January 1990.

譚外元 (Tan, Wai-Yuan)

During Jan. 1 - June 1, 1990, visit Division of HIV/AIDS, CDC, Atlanta, GA; Visiting Professor, Emory University, Atlanta, GA. Current major research areas: AIDS Models, Cancer Models and Risk Analysis of Environmental Agents.

羅昭容 (Yang, Grace L.)

Received 1990 best paper Award by Instrumentation and Measurement Soc. IEEE for the paper on "The effects of timing jitter in sampling systems", jointly with T. M. Sounders, D. Flach & C. Hagwood.

The First International Conference of ICOSA
held in Hong Kong, Dec. 15-17, 1990

PROGRAM OF THE CONFERENCE

Time	December 14 (Friday)	Location
8:00-11:00	RECEPTION -- Derby Suites, Royal Park Hotel, Shatin	
Time	December 15 (Saturday)	Location
8:30-9:00	Opening Ceremony	Science Center L1
	Chair - Fu, J. C. , Conference Coordinator (Univ. of Manitoba)	
8:30-8:40	Prof. C. K. Kao, President, Chinese University of Hong Kong	
8:40-8:50	Yang, G., President, I.C.S.A. (Univ. of Maryland)	
8:50-9:00	Chow, Y. S. , Conference Chairman (Columbia Univ.)	
	Invited Paper Session I	Science Center L1
	Chair- Tiao, G. C. (Univ. of Chicago)	
9:15-9:50	Chao, M. T. & Fu, J. C. (Academia Sinica, Taipei)	
#1	THE RELIABILITY OF LARGE SERIES SYSTEM UNDER MARKOV STRUCTURE	
9:50-10:25	Cheng, P. & Li, G.-Y. (Academia Sinica, Beijing)	
#2	SOME THEORETICAL RESULTS ON PROJECTION PURSUIT	
10:25-10:45	Coffee Break -- Science Center L4	
	Contributed Paper	
	Session 1 -- Estimation I	Science Center L2
	Chair- Wang, S. R. (Academia Sinica, Beijing)	
10:45-11:00	Wu, K. H. (Chinese Univ. of Hong Kong)	
#3	MINIMAX PROPERTIES OF M-ESTIMATE FOR SCALE OVER E-CONTAMINATION NORMAL NEIGHBOURHOOD MODEL.	
11:00-11:15	Lee, C. M. S. & Famoye, F. (Central Michigan Univ.)	
#4	METHODS FOR ESTIMATING DISCRETE DISTRIBUTIONS	
11:15-11:30	Chen, J. (Peking Univ.)	
#5	ON THE ORDER RELATION IN THE SAMPLE SPACE AND CONFIDENCE LIMITS OF PARAMETERS	
11:30-11:45	Yang, M.-C. & Ghosh, M. (National Central Univ.)	
#6	RIDGE ESTIMATION OF INDEPENDENT POISSON MEANS UNDER ENTROPY LOSS	
11:45-12:00	Yang, S.-S. (Kansas State Univ.)	
#7	GENERALIZED LEAST SQUARES ESTIMATION OF MULTIPLE-RESPONSE MODELS WITH MISSING DATA	
12:00-12:10	Questions	
	Session 2 -- Time Series I	Science Center L3
	Chair- Cheng, P. (Academia Sinica, Taipei)	
10:45-11:00	Liu, L.-M. (Univ. of Illinois at Chicago)	
#8	OUTLIER DETECTION AND ADJUSTMENT IN TIME SERIES MODELING AND FORECASTING	
11:00-11:15	Deng, J. & Song X. (Zhongshan Univ.)	

- #9 THE APPLICATION OF FIRST ORDER CLOSED RING TAR MODEL
AND ASYMPTOTIC PROPERTIES OF ITS COEFFICIENT ESTIMATES
11:15-11:30 Wong, H. & Li, W. K. (H. K. Polytechnic)
#10 A RANK PORTMANTEAU TEST FOR CONDITIONAL HETEROSCEDASTICITY
11:30-11:45 Wang, J.-G. (East China Univ. of Chemical Technology)
#11 AN ITERATED LOGARITHM RESULT FOR ESTIMATORS OF AUTOREGRESSIVE PROCESS
11:45-12:00 Yeung, I. (City Polytechnic of H. K.)
#12 CONTINUOUS TIME SERIES ANALYSIS OF BLOWFLY POPULATION
12:00-12:10 Questions

Session 3 -- Econometrics & Social Statistics

Science Center L5

- Chair- Tung, C.-C. (National Chengchi Univ.)
10:45-11:00 Zhang, Y.-G. (Academia Sinica, Beijing)
#13 STATISTICAL MODELING TO ANALYZE THE IMPACT OF TECHNOLOGY PROGRESS
ON NATIONAL ECONOMY GROWTH
11:00-11:15 Liou, M. (Academia Sinica, Taipei)
#14 EXACT TESTS OF PERSON FIT INDICES
11:15-11:30 Lam, K. & Wong, P. S. (Univ. of Georgia)
#15 A SIMPLE MODEL FOR THE JOINT DISTRIBUTION OF STOCKS' RETURN
AND TRADING VOLUME WITH A BUILT-IN ASYMMETRIC RELATIONSHIP
11:30-11:45 Song, Z.-J. (Nankai Univ.)
#16 A STUDY ON LONG TERM PREDICTION OF CHINESE RESIDENT CONSUMPTION LEVEL
11:45-12:00 Hsiao, C. & Arguea, N. M. (Univ. of Southern California)
#17 ECONOMETRIC ISSUES OF ESTIMATING HEDONIC PRICE FUNCTIONS --
WITH APPLICATION TO THE U. S. MARKET FOR AUTOMOBILES
12:00-12:10 Questions
12:15-1:30 Lunch Break

Invited Paper Session II

Science Center L1

- Chair- Fu, J. C. (Univ. of Manitoba)
1:30-2:05 Chow, Y. S. (Columbia Univ.)
#18 MOMENT INEQUALITIES FOR HSU-ROBBINS SERIES
2:05-2:40 Fang, K. T. & Bentler, P. M. (Academia Sinica, Beijing)
#19 QUANTIZER AND REPRESENTATIVE POINTS OF ELLIPTICALLY CONTOURED DISTRIBUTIONS
2:40-3:15 Chen, L. H. Y. (National Univ. of Singapore)
#20 ON THE NUMBER OF ONES IN THE BINARY EXPANSION OF A RANDOM INTEGER
3:15-3:35 *Coffee Break -- Science Center L4*

Contributed Paper

Session 4 -- Distribution Theory

Science Center L2

- Chair- Ng, K. W. (Univ. of Hong Kong)

- 3:35-3:50 Lee, C.-I. (Memorial Univ. of Newfoundland)
 #21 ON LAPLACE CONTINUED FRACTION FOR THE NORMAL INTEGRAL
- 3:50-4:05 Cheng, K. & He, Z. (Academia Sinica, Beijing)
 #22 AN EXPONENTIAL APPROXIMATION OF IFR DISTRIBUTIONS
- 4:05-4:20 Wong, S. P., Relyea, G. E. & McGraw, K. O. (Memphis S. Univ.)
 #23 A REGRESSION METHOD FOR APPROXIMATING SOME NORMAL PROBABILITY
- 4:20-4:35 Fu, R. & Gu, H. (South China Normal Univ.)
 #24 ON THE INTEGRATED CAUCHY FUNCTIONAL EQUATION WITH AN ERROR TERM
- 4:35-4:50 Yang, W. & Huang, Y. (Zhongshan Univ.)
 #25 THE ESTIMATION OF PARAMETERS FOR A CLASS OF MATRIX ELLIPTICALLY
 CONTOURED DISTRIBUTIONS IN INCOMPLETE DATA
- 4:50-5:00 Questions

Session 5 -- Regression Analysis

Science Center L3

- Chair- Lin, B.-Y. L. (National Chengchi Univ.)
- 3:35-3:50 Wei, B.-C. (Southeast Univ.)
 #26 CURVATURE MEASURE FOR NONLINEAR CONSTRAINED NONLINEAR REGRESSION
- 3:50-4:05 Gu, M. (McGill Univ.)
 #27 SEQUENTIAL ANALYSIS FOR CENSORED REGRESSION DATA
- 4:05-4:20 Ki, Y.-C. F. (Temple Univ.)
 #28 APPLICATIONS OF MULTIPLE SHRINKAGE ESTIMATION IN MULTIPLE
 LINEAR REGRESSION
- 4:20-4:35 Teng, C.-Y. & Fang, H.-B. (Zhongshan Univ.)
 #29 THE EXACT DISTRIBUTION OF IV ESTIMATORS OF EXOGENOUS VARIABLE COEFFICIENTS
 WITH A CERTAIN KIND OF NON-NORMAL DISTURBANCE IN THE SIMULTANEOUS EQUATIONS
- 4:35-4:50 Chen, H. (State Univ. of New York)
 #41 POLYNOMIAL SPLINES AND NONPARAMETRIC REGRESSION
- 4:50-5:00 Questions

Session 6 -- Biostatistics I

Science Center L5

- Chair- Chen, J. J. (National Center for Toxicological Research)
- 3:35-3:50 Chen, C.-H. (Academia Sinica, Taipei)
 #30 ANALYSIS OF SCREENING DATA FOR CHRONIC DISEASE IN CONSIDERATION OF
 LENGTH BIASED SAMPLING
- 3:50-4:05 Cheng, Q., Shen, Q. & Yun, Z. (Nanjing Railway Medical College)
 #31 ESTIMATING THE ATTRIBUTABLE RISK IN PROSPECTIVE STUDIES
 USING POISSON REGRESSION MODEL
- 4:05-4:20 Ho, M. P. P. (City Polytechnic of H. K.)
 #32 DOES MEDICAL AUDIT AFFECT CONSULTATION RATES IN BRITISH GENERAL PRACTICE
- 4:20-4:35 Fung, K., Lerous, B. G., Krewski, D. & Prentice, R. L. (Univ. of Windsor)

#33	THE USE OF HISTORICAL CONTROL DATA IN TESTING FOR TREND IN COUNTS	
4:35-4:50	Lee, C. (National Sun Yat-Sen Univ.)	
#34	A TWO-STAGE MODEL WITH APPLICATION TO CANCER GROWTH	
4:50-5:00	Questions	
Time	December 16 (Sunday)	Location
	Invited Paper Session III	<i>Science Center L1</i>
	Chair- Wei, C. Z. (Univ. of Maryland)	
8:30-9:05	Chen, X. & Wu, Y. (Univ. of Science & Technology of China)	
#35	ON CONSISTENCY OF MINIMUM L1 NORM ESTIMATES IN LINEAR MODELS	
9:05-9:40	Hsiung, C. A. & Chang, I.-S. (Academia Sinica, Taipei)	
#36	APPLICATIONS OF ESTIMATING FUNCTION THEORY TO REPLICATES OF GENERALIZED PROPORTIONAL HAZARDS MODELS	
	STATISTICA SINICA Panel Discussion	<i>Science Center L1</i>
9:40-10:30	Chair-Tiao, G. C., Chair Editor (Univ. of Chicago)	
10:30-10:50	<i>Coffee Break -- Science Center L4</i>	
	Contributed Paper	
	Session 7 -- Non-parametrics & Ranking Selection	<i>Science Center L2</i>
	Chair- Jeon, J. (Seoul National Univ.)	
10:50-11:05	Hu, W.-H. & Chen, Y.-L. (Tamkang Univ.)	
#37	A NONPARAMETRIC TEST FOR TESTING THE EQUALITY OF TWO DISTRIBUTION FUNCTIONS	
11:05-11:20	Kong, F. (Anhui Univ.)	
#38	CRAMER TYPE LARGE DEVIATIONS FOR RANK STATISTICS	
11:20-11:35	Chen, H. J. & Bau, J.-J. (Univ. of Georgia)	
#39	ON TESTING A COMPOSITE HYPOTHESIS AND ITS PERCENTAGE POINTS	
11:35-11:50	Yu, P. L. H. (Univ. of Hong Kong)	
#40	A GENERAL FRAMEWORK FOR THE SELECTION OF A FIXED NUMBER OF GOOD TREATMENTS	
11:50-12:05	Chen, Y.-I. (National Central Univ.)	
#102	ROBUST RANK PROCEDURES FOR UMBRELLA ALTERNATIVES IN A GENERALIZED BEHRENS-FISHER PR	
12:05-12:15	Questions	
	Session 8 -- Time Series III	<i>Science Center L3</i>
	Chair- Liu, L.-M. (Univ. of Illinois)	
10:50-11:05	An, H.-Z. & Cheng, B. (Academia Sinica, Beijing)	
#42	A KOLMOGOROV-SMIRNOV TYPE STATISTIC WITH APPLICATION TO TEST FOR NONLINEARITY IN TIME SERIES	
11:05-11:20	Au, S. T. T. (AT & T Bell Labs)	
#43	CROSS-SECTIONAL MODELING OF SHORT TIME SERIES: ASSESSING THE GROWTH OF TELEPHONE USAGE	
11:20-11:35	Li, T.-W. (Univ. of Hong Kong)	
#44	SOME EXPERIENCES WITH THE LEAST MEDIAN OF SQUARES METHOD	

IN ROBUST TIME SERIES MODELLING.

- 11:35-11:50 Beveridge, S. (University of Alberta)
#45 AN EVALUATION OF THE LINEAR INTERPOLATOR FOR MISSING VALUES IN TIME SERIES
- 11:50-12:05 Sun, T.-C. (Wayne State University)
#104 LIMIT THEOREM FOR NON-LINEAR FUNCTIONS OF A NORMAL STATIONERY PROCESS
- 12:05-12:15 Questions

Session 9 -- Applied Statistics

Science Center L5

Chair- Wei, B.-C. (Southeast Univ.)

- 10:50-11:05 Leung, P. L. & Notodiputro, K. A. (Chinese Univ. of H. K.)
#46 BAYESIAN IMAGE RECONSTRUCTION METHODS FOR EMISSION TOMOGRAPHY
- 11:05-11:20 Chen, R. & Chen, Q. (Suzhou Univ.)
#47 A GENERALLY APPLICABLE METHOD OF STATISTICAL ANALYSIS FOR STUDYING AND CLASSIFYING NERVE TYPES OF CHILDREN, JUVENILES AND YOUTHS
- 11:20-11:35 Shi, J., Chang, H. & Chen, Z. (Univ. of Science & Technology of China)
#48 THE APPLICATION OF PROJECTION PURSUIT PRINCIPAL COMPONENT ANALYSIS TO METEOROLOGY
- 11:35-11:50 Lin, H. Z., Shen, Y. Y., Hu, Z. B., Zhou, F. G., WU, J. W., Fu, J. X. (Qingdao Ocean Univ.)
#49 MULTIVARIATE STATISTICAL ANALYSES APPLIED TO PREDICTING OIL AND GAS FAVORABLE REGIONS
- 11:50-12:05 Pan, E. & Pu, Z. (Chinese Academy of Geological Science)
#50 GENERALIZED CHARACTERISTIC ANALYSES
- 12:05-12:15 Questions
- 12:15-1:30 Lunch Break

Invited Paper Session IV

Science Center L1

Chair- Chao, M. T. (Academia Sinica, Taipei)

- 1:30-2:05 Hwang, J. T. (Cornell Univ.)
#51 ARE P-VALUES GOOD OR BAD -- A SYSTEMATIC STUDY
- 2:05-2:40 Cheng, K. F. & Cheng P. E. (National Central Univ.)
#52 A SEMIPARAMETRIC APPROACH TO CENSORED DATA LINEAR REGRESSION MODELS
- 2:40-3:15 Zhang, Y. T. (Wuhan Univ.)
#53 T.B.A.
- 3:15-3:35 *Coffee Break* -- Science Center L4

Contributed Paper

Session 10 -- Estimation III

Science Center L2

Chair- Hu, W.-H. (Tamkang Univ.)

- 3:35-3:50 Liang, W. & Yin, Y. Q. (Academia Sinica, Taipei)
#54 TWO PARAMETER EXPONENTIAL FINITE MIXTURE
- 3:50-4:05 Ngai, H. M. (Hong Kong Baptist College)
#55 ESTIMATION OF PARAMETERS IN INCOMPLETE COMPOSITIONAL DATA

- 4:05-4:20 Lee, M.-L. T. (Boston University)
 #56 MIXTURES OF LIFETIME DISTRIBUTIONS
- 4:20-4:35 Liu, P.-S. L. & Dey, D. K. (Fu-Jen Catholic Univ.)
 #57 IMPROVED ESTIMATION OF THE COMMON SCALE PARAMETER
 OF SEVERAL PARETO DISTRIBUTIONS
- 4:35-4:50 Deng, W. C. (Jinan Univ.)
 #58 ML ESTIMATORS AND BC_a CONFIDENCE INTERVALS FOR SOME MODELS
- 4:50-5:00 Questions

Session 11 -- General Linear Model

Science Center L3

- Chair- Cheng, S. W. (Univ. of Manitoba)
- 3:35-3:50 Tsai, H. (R. W. Johnson Pharmaceutical Research Institute)
 #59 ESTIMATION OF A LINEAR MODEL WHEN THE VARIANCE IS A LINEAR FUNCTION
 OF UNKNOWN PARAMETERS
- 3:50-4:05 Shi, L. (Yunnan Univ.)
 #60 INFLUENCE ANALYSIS OF LINK PARAMETER IN GLM
- 4:05-4:20 Pan, J. (Yunnan Univ.)
 #61 LIKELIHOOD RATIO CRITERIA OF PARAMETERS IN GROWTH CURVE MODEL
 FOR ELLIPTICALLY CONTOURED DISTRIBUTIONS
- 4:20-4:35 Chai, G. (Sichuan Univ.)
 #62 A NONPARAMETRIC APPROACH TO THE ESTIMATION OF ERROR DISTRIBUTIONS
 IN LINEAR MODEL
- 4:35-4:50 Teng, C.-Y., Chen, T.-H., Fang, H.-B. (Zhongshan Univ.)
 #63 THE EXACT DISTRIBUTION OF THE ESTIMATOR OF PARAMETERS IN THE SUR MODEL
- 4:50-5:00 Questions

Session 12 -- Biostatistics II

Science Center L5

- Chair- Chen, C.-H. (Academia Sinica, Taipei)
- 3:35-3:50 Wang, P. C. (National Central Univ.)
 #64 DIAGNOSTICS AND SCORE STATISTICS IN REGRESSION
- 3:50-4:05 Wong, G. Y., Telang, Osborne (Memorial Sloan-Kettering Cancer Center)
 #65 A STATISTICAL METHOD FOR ANALYZING EFFECTS OF ONCOGENE TRANSFECTION
 IN FASTIDIOUS EPITHELIAL CELLS
- 4:05-4:20 Chen, J. J. & Li, L.-A. (Academia Sinica, Taipei)
 #66 EVALUATION OF STATISTICAL MODELS FOR DEVELOPMENT TOXICITY
- 4:20-4:35 Zhou, S. Y. J. & Kingsley, L. A. (Univ. of Pittsburgh)
 #67 A NOVEL METHOD FOR DETERMINING WHETHER AN INCREASE IN HIV SEROCONVERSION
 INCIDENCE HAS OCCURRED IN THE MULTICENTER AIDS STUDY (MACS)
- 4:35-4:50 Sun, S. G. (Beijing Medical Univ.)
 #68 UNBIASED DISCRIMINANT FUNCTIONS AND SIMULATION COMPARISON
- 4:50-5:00 Questions

7:00-9:30

BANQUET

Treasure Floating Restaurant, Shatin

Time

December 17 (Monday)

Location

Invited Paper Session V

Science Center L1

Chair- Yang, G. (Univ. of Maryland)

- 8:30-9:05** Lee, S. Y. , Poon, W.-Y. & Bentler, P. M. (Chinese Univ. of Hong Kong)
#69 A TWO-STAGE ESTIMATION OF STRUCTURAL EQUATION MODELS WITH CONTINUOUS AND POLYTOMOUS VARIABLES
- 9:05-9:40** Wei, D. & Liu, L.-M. (Bureau of Statistics, DGBAS, Taipei)
#70 A STUDY OF A MICROECONOMIC MODEL OF TAIWAN USING TIME SERIES METHODS
- 9:40-10:15** Lee, J. C. & Lee, Y. T. (Bellcore)
#71 ON A NEW ESTIMATION PROCEDURE FOR AUTOREGRESSIVE PROCESSES WITH APPLICATION TO SPEECH SIGNALS
- 10:15-10:50** Zhang, Z. F.
#72 T.B.A.
- 10:50-11:10** *Coffee Break -- Science Center L4*

Contributed Paper

Session 13 -- Probability

Science Center L2

Chair- Chai, G.-X. (Sichuan Univ.)

- 11:10-11:25** Chao, C.-C. & Severo, N. C. (Academia Sinica, Taipei)
#73 DISTRIBUTIONS OF BALLOT PROBLEM RANDOM VARIABLES
- 11:25-11:40** He, S.-W. & Wang, J.-G. (East China Univ. of Chemical Technology)
#74 ON THE OPTIMAL PARKING PROBLEM
- 11:40-11:55** Deng, L.-Y. (Memphis State Univ.)
#75 GENERALIZED LEHMER-TAUSWORTHE RANDOM NUMBER GENERATORS
- 11:55-12:10** Liu, H.-C. (Feng Chia Univ.)
#76 AN IMPROVED PROCEDURE FOR SELECTING THE BETTER OF TWO BERNOULLI POPULATIONS WITH SMALL PROBABILITIES OF SUCCESS
- 12:10-12:20** Questions

Session 14 -- Sampling Theory

Science Center L3

Chair- Lee, M.-L. T. (Boston Univ.)

- 11:10-11:25** Lo, H.-P. & Wani, J. K. (City Polytechnic of H. K.)
#77 SAMPLING DISTRIBUTIONS OF GROUPS WHEN SAMPLING UNITS ARE NOT GROUPS
- 11:25-11:40** Liu, S.-I. & Kuo F.-S. (National Central Univ.)
#78 ON THE ANALYSIS OF SOUSY-VHF RADAR DATA
- 11:40-11:55** Fung, W.-K. (Univ. of Hong Kong)
#79 DETECTING INFLUENTIAL OBSERVATIONS IN DISCRIMINANT ANALYSIS
- 11:55-12:10** Meng, F. C. (Academia Sinica, Taipei)
#80 A PROOF OF KARLIN'S CONJECTURE IN SAMPLING THEORY

12:10-12:20 Questions

Session 15 -- Quality Control & Reliability

Science Center L5

Chair- Wang, P. C. (National Central Univ.)

11:10-11:25 Li, C.-C. & Fun, Y.-P. (National Tsing Hua Univ.)

#81 C_{npm} : MODIFIED C_{pm} AND C_{poc} : PROCESS CAPABILITY INDEX
FOR ORDERED CATEGORICAL PRODUCTION PROCESSES

11:25-11:40 Weng, Z., Zhou, Y., Liu, Z. (Beijing Institute of Structure & Environment)

#82 APPROXIMATE BAYESIAN LIMITS FOR RELIABILITY OF NORMAL SERIES SYSTEM

11:40-11:55 Li, C.-C. & Weng, C.-Y. (National Tsing Hua Univ.)

#83 REANALYSIS THE WHEATSTONE BRIDGE SIMULATION EXAMPLE BY TAGUCHI

11:55-12:10 Bilodeau, M. (University of Montreal)

#103 FOURIER BIVARIATE SCATTERPLOT SMOOTHER AND GENERALIZED ADDITIVE MODELS

12:10-12:20 Questions

12:20-1:30 Lunch Break

Invited Paper Session VI

Science Center L1

Chair- Chan, N. N. (The Chinese Univ. of Hong Kong)

1:30-2:05 Chao, A. & Lee, S.-M. (National Tsing Hua Univ.)

#84 GENERALIZED SAMPLE COVERAGE WITH APPLICATION TO CHINESE POEMS

2:05-2:40 Li, W. K. (Univ. of Hong Kong)

#85 SOME RECENT ADVANCES IN ROBUST TIME SERIES ANALYSIS

2:40-3:15 Mao, S. S. & Han, Q. (East China Normal Univ.)

#86 STATISTICAL ANALYSIS OF A LIFE TEST AND AN ACCELERATED LIFE TEST
UNDER TYPE I CENSORING OF WEIBULL DISTRIBUTION

3:15-3:35 *Coffee Break -- Science Center L4*

Contributed Paper

Session 16 -- Density Estimation & Curve Fitting

Science Center L2

Chair- Chao, A. (National Tsing Hua Univ.)

3:35-3:50 Huang, W.-M. & Ghosh, B. K. (Lehigh Univ.)

#87 ON THE BICKEL-ROSENBLATT TEST FOR GOODNESS-OF-FIT

3:50-4:05 Li, G.-Y. & Zha, W.-X. (Academia Sinica, Beijing)

#88 PP NEYMAN TESTS FOR MULTIVARIATE GOODNESS-OF-FIT

4:05-4:20 Wang, J., Cui, H. & Ping, Z. (Beijing Normal Univ.)

#89 THE ASYMPTOTIC PROPERTIES OF ESTIMATE OF THE DENSITY
IN THE LARGEST DISPERSION DIRECTION

4:20-4:35 Yang, Z. & Zhong, Z. (Beijing Polytechnic Univ.)

#90 KERNEL ESTIMATION OF A DISTRIBUTION FUNCTION

4:35-4:50 Yang, Z. (Academia Sinica, Beijing)

#91 AN ALGORITHM FOR L1 NONLINEAR CURVE-FITTING BASED
ON THE SMOOTH APPROXIMATION

4:50-5:00 Questions

Session 17 -- Discriminant & Data Analysis

Science Center L3

Chair- Li, C.-C. (National Tsing Hua Univ.)

3:35-3:50 Wang, Y. J. & Wong, G. (Academia Sinica, Taipei)

#92 ASSESSING BIVARIATE NORMALITY FOR ORDERED TWO-WAY CONTINGENCY TABLES

3:50-4:05 Shi, X. & Liu, K. (Fudan Univ.)

#93 RESAMPLING METHOD UNDER DEPENDENT MODELS

4:05-4:20 Ho, S. C. (National Chung-Hsing Univ.)

#94 AN ALGORITHM FOR GENERATING SAMPLES FROM A P-DIMENSIONAL BINGHAM DISTRIBUTION

4:20-4:35 Tung, C.-C. (National Chengchi Univ.)

#95 THE CONDITIONAL AND UNCONDITIONAL INFERENCE ABOUT THE MEAN OF UNIFORM DISTRIBUTION WITH KNOWN RANGE

4:35-4:50 Guo, F. X. (Fuzhou Univ.)

#96 SELECTION OF THE CLUSTERS' NUMBER

4:50-5:00 Questions

Session 18 -- Statistical Inference & Stochastic Process

Science Center L5

Chair- Yan, S.-J. (Academia Sinica, Beijing)

3:35-3:50 Fei, H.-L. & Xie, X. (Shanghai Teachers' Univ.)

#97 STATISTICAL ANALYSIS FOR PROGRESSIVE-STRESS ACCELERATED LIFE TESTING IN THE EXPONENTIAL CASE

3:50-4:05 Fuh, C. D. (Academia Sinica, Taipei)

#98 BOOTSTRAPPING MARKOV CHAINS

4:05-4:20 Lu, C.-R. (Hangzhou Univ.)

#99 ON THE INCREMENTS OF LOCAL TIME OF A WIENER PROCESS

4:20-4:35 Zhu, W. Y. & Duan, X. (Northeast Univ. of Technology)

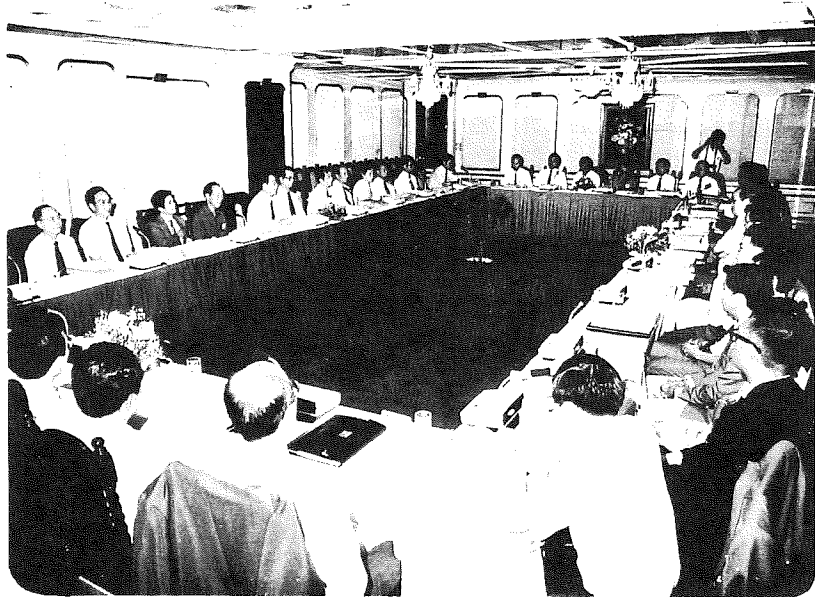
#100 D-OPTIMAL SYMMETRY DESIGNS FOR MIXTURE EXPERIMENTS AND ITS APPLICATION

4:35-4:50 Wang, H. L. (Shanghai Univ. of Finance & Economics)

#101 STATISTICAL INDEX FOR THE UTILIZATION OF FOREIGN CAPITAL IN CHINA

4:50-5:00 Questions

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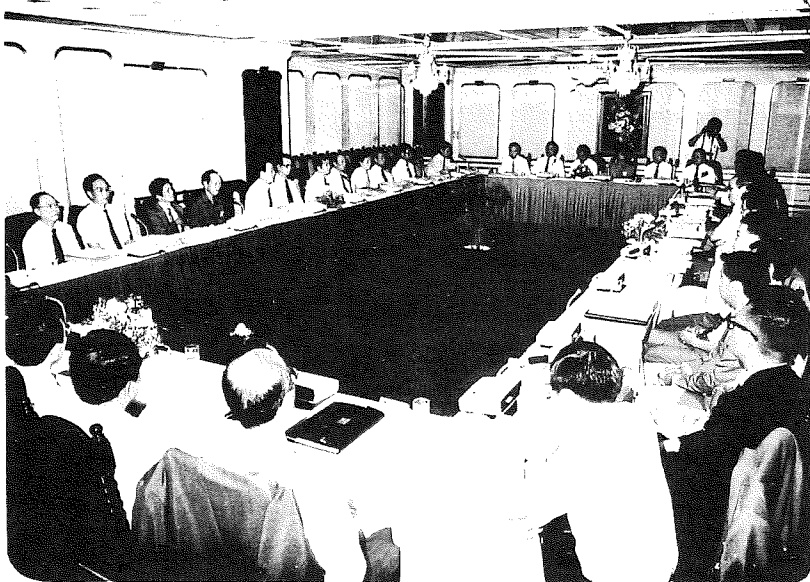
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