

**Updated Program**  
INTERNATIONAL CONFERENCE ON MATHEMATICAL ANALYSIS AND ITS APPLICATIONS  
(ICMAA2000)  
NATIONAL SUN YAT-SEN UNIVERSITY  
KAOHSIUNG, TAIWAN, R. O. C.  
JANUARY 17-21, 2000.

New changes are in typewriter fonts  
**Monday, Jan. 17, 2000**  
**University Library 11th Floor, NSYSU**

**08:00 – 09:30 Registration**

**09:30 – 9:50 Opening**

- Vice President C. H. Chou of National Sun Yat-sen University
- President T. H. Kuo of Mathematical Society of Republic of China

**10:00 – 11:00 Keynote speech** by Louis de Branges (Purdue)  
*The measure problem.* (Chairman: Borluh Lin)

**11:15 – 12:15 Keynote speech** by Mau-Hsiang Shih (Chung Yuan Christian U.)  
*Convexity, games and the stability problem.* (Chairman: S. Koshi)

**Lunch**

**13:30 – 14:50 Parallel Sessions of 40-minute Lectures**

1. **Banach Space Theory, I (Room A, Chairman: Mark C. Ho)**
  - (a) C. C. Cowen (Purdue)  
*Schroeder's equation in several variables.*
  - (b) Denny Leung (Singapore)  
*On the complemented subspaces of the Schreier spaces.*
2. **Matrix Analysis, I (Room B, Chairman: M. H. Shih)**
  - (a) T. Ando (Hokusei Gakuen University)  
*Bloomfield-Watson type inequalities for eigenvalues.*
  - (b) S. Koshi (Hokkaido Inst. Tech.)  
*Disintegration method in Fourier analysis.*
3. **Optimization Theory, I (Room C, Chairman: H. C. Lai)**
  - (a) B. D. Craven (Melbourne)  
*Perturbations and approximate minimum in constrained optimization.*
  - (b) T. Tanaka (Hirosaki U.)  
*Graphic computation of payoff functions for multi-criteria games.*
4. **Value distribution theory, I (Room D, Chairman: A. P. Singh)**
  - (a) C. C. Yang (Hong Kong U. of Sci. Tech.)  
*On value distribution theory and its applications to complex dynamics.*

(b) S. Morosawa (Kochi U.)

*Appearance of Baker domains.*

**5. Operator Semigroups, I (Room E, Chairman: S. Y. Shaw)**

(a) F. Altomare (U. of Bari)

*Transition semigroups on weighted function spaces.*

(b) W. Arendt (U. of Ulm)

*Resolvent positive operators and non-homogeneous boundary conditions.*

**15:10 – 17:00 Parallel Sessions of 20-minute Talks**

**Room A** Chairman: P. L. Papini

**15:10 – 15:30** V. K. Bhardwaj (Kurukshetra U.)

*On some new spaces of lacunary strongly  $\sigma$ -convergent sequences defined by Orlicz functions.*

**15:30 – 15:50** O. Blasco (U. de Valencia)

*$q$ -concavity and related properties on symmetric sequence spaces.*

**16:00 – 16:20** M. Budzynska (U. of Maria Curie-Skłodowska)

*A semi-Opial property.*

**16:20 – 16:40** C. Z. Cheng (Beijing Poly. U.)

*A minimax theorem involving two functions.*

**16:40 – 17:00** Y. Zelinski (Inst. Math., Ukraine)

*Complex linearly convex analysis.*

**Room B** Chairman: M. H. Shih

**15:10 – 15:30** Pankaj Jain (U. of Delhi)

*Inequality of Hardy and Carleman type.*

**15:30 – 15:50** M. Uchiyama (Fukuoka U. of Ed.)

*Pick function which is defined implicitly and operator inequality.*

**16:00 – 16:20** T. Yamamoto (Hokkai-Gakuen U.)

*The real part of an outer function and the parameterization of a Helson-Szego weight.*

**16:20 – 16:40** T. Kuczumow (U. of Maria Curie-Skłodowska)

*The Denjoy-Wolff theorem.*

**16:40 – 17:00** S. Ohno (Nippon Inst. of Tech.)

*Weighted composition operators on the sup-norm function spaces.*

**Room C** Chairman: P. Y. Wu

**15:10 – 15:30** F. Lust-Piquard (U. de Cergy-Pontoise)

*On some commutative and noncommutative Riesz transforms.*

**15:30 – 15:50** N. Komuro (Hokkaido U. of Ed. at Asahikawa)

*Facial structure of convex sets and applications.*

**16:00 – 16:20** C. Winsløw (Royal Danish Sch. of Ed. Studies)

*Global structure in von Neumann algebra theory.*

**16:20 – 16:40** P. Dowling (Miami U.)

*Asymptotically isometric copies of  $c_0$  in dual spaces.*

**16:40 – 17:00** S. L. Blyumin (Lipetsk State Tech. U.)  
*Von Neumann relations over Heyting lattices.*

**Room D** Chairman: C. C. Yang

**15:10 – 15:30** T. Y. P. Chern (I-Shou U.)  
*The existence theorem of proximate lower  $\phi$ -order and its applications.*

**15:30 – 15:50** L. M. T. Sanchez (IPN, Mexico)  
*Some results about  $Q_p$  and  $B_p$  spaces.*

**16:00 – 16:20** H. Wulan (Inner Mongolia Normal U.)  
*A new characterization of normal functions.*

**16:20 – 16:40** S. A. Makhmutov (Ufa State Aviation Tech. U.)  
*On weighted Yosida functions.*

**16:40 – 17:00** V. K. Tuan (Kuwait U.)  
*Paley-Wiener- and Boas-type theorems for a class of integral transforms.*

**Room E** Chairman: F. Altomare

**15:10 – 15:30** J. Banasiak (U. of Natal)  
*Some extensions of Miyadera-Voigt perturbation theorem with applications.*

**15:30 – 15:50** A. Attalienti (U. di Bari)  
*Degenerate evolution problems and beta-type operators.*

**16:00 – 16:20** N. Okazawa (Sci. U. of Tokyo)  
*Perturbation theory for  $m$ -accretive operators and generalized complex Ginzburg-Landau equations.*

**16:20 – 16:40** T. Takenaka (Chubu U.)  
*Local  $C$ -cosine families and local  $n$ -times integrated cosine families.*

**16:40 – 17:00** J. Myjak (U. of L'Aquila)  
*Fractals, semifractals and Markov operators.*

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**Tuesday, Jan. 18, 2000**

**College of Science Building, NSYSU**

**08:30 – 9:50 Parallel Sessions of 40-minute Lectures**

**1. Numerical Ranges (Room A, Chairman: P. Y. Wu)**

(a) M. D. Choi (Toronto)  
*Dilations and numerical ranges.*

(b) C. K. Li (William and Mary)  
*Linear operators preserving numerical ranges and radii.*

**2. Convex Analysis, I (Room B, Chairman: J. C. Yao)**

(a) F. Giannessi (U. of Pisa)  
*Some topics on (scalar and vector) variational inequalities.*

(b) A. H. Siddiqi (KFUTM, Saudi Arabia),  
TBA

**3. Nonlinear Analysis (Room C, Chairman: H. C. Wang)**

(a) Y. F. Fang (Cheng Kung U.)

*Existence and uniqueness for Davey-Stewartson system on a circle.*

(b) M. J. Huang (Tsing Hua U.)

*Comparison theorems for eigenvalues of one-dimensional Schrodinger operators.*

**4. Value distribution theory, II (Room D, Chairman: S. Mori)**

(a) K. Tohge (Kanazawa U., Japan)

*On value distribution of algebroid functions.*

(b) Y. Aihara (Numazu College of Tech., Japan)

*Criteria for algebraic dependence of meromorphic mappings.*

**10:10 – 12:20 Parallel Sessions of 20-minute Talks**

**Room A** Chairman: O. Blasco

**10:10 – 10:30** K. Goebel (Maria Curie-Sklodowska U.)

*Exotic problems in metric fixed point theory.*

**10:30 – 10:50** Pawan K. Jain (U. of Delhi)

*A class of Banach spaces with weak\*-angelic dual unit balls.*

**10:50 – 11:10** W. J. Kaczor (Maria Curie-Sklodowska U.)

*Some remarks about uniformly lipschitzian mappings and lipschitzian retractions.*

**11:20 – 11:40** A. Kaminska (U. of Memphis)

*Order convexity and concavity properties in Lorentz spaces with arbitrary weight.*

**11:40 – 12:00** J. Gao (Community College of Philadelphia)

*Normal structure and the arc length in Banach spaces.*

**12:00 – 12:20** Y. H. Lin (Nat'l Changhua U. of Ed)

*Some complemented subspace problem.*

**Room B** Chairman: W. A. Kirk

**10:10 – 10:30** R. Ahmad (Aligarh Muslim U.)

*A perturbed Ishikawa iterative algorithm for general mixed multivalued mildly non-linear variational inequalities.*

**10:30 – 10:50** D. A. Ayoshin (Hirosaki U.)

*A construction of the optimal path in a multi-choice game.*

**10:50 – 11:10** C. Lennard (Pittsburgh)

*Subsets of  $\ell_1$  with the fixed point property for asymptotically nonexpansive mappings.*

**11:20 – 11:40** Y. C. Lin (Nat't Sun Yat-sen U.)

*General KKM theorem with applications to minimax and variational inequalities.*

**11:40 – 12:00** L. J. Lin (Nat'l Changhua U. of Ed.)

*Coincidence theorems, fixed point theorems and equilibrium problems.*

**12:00 – 12:20** B. Sims (U. of Newcastle, Australia)

*A new direction in the investigation of metric fixed point theory.*

**Room C** Chairman: Anthony T.-M. Lau

**10:10 – 10:30** J. H. Fourie (Potchefstroom U.)

*Summing multipliers and nuclearity of operators on sequence spaces.*

**10:30 – 10:50** M. D. A. Vigil (U. de Granada)

*James' Theorem and numerical radius attaining operators.*

**10:50 – 11:10** Y. N. Law (U. of Hong Kong)

*Some additive-preserver problems.*

**11:20 – 11:40** M. S. Moslehian (Ferdowsi U.)

*On local cohomology of Banach algebras.*

**11:40 – 12:00** S. B. Joshi (Walchand College of Engineering)

*Analytic functions with negative coefficients for operator on Hilbert space.*

**12:00 – 12:20** R. Aulaskari (U. of Joensuu)

*Some inequalities for  $Q_p$  functions.*

**Room D** Chairman: H. C. Wang

**10:10 – 10:30** K. I. Nakamura (U. of Electro-Communications, Japan)

*Effective speed of traveling wavefronts in periodic inhomogeneous media.*

**10:30 – 10:50** M. Taniguchi (Tokyo Inst. of Tech.)

*Traveling curved fronts in the generalized mean curvature flow.*

**10:50 – 11:10** C.-T. Wu (Tech. Univ. Wien Wiedner, Austria)

*On weak Brownian motions of arbitrary order.*

**11:20 – 11:40** N. Ishimura (Hitotsubashi U.)

*Nonexistence of monotonic solutions of some third order ODE relevant to the Kuramoto-Sivashinsky equation.*

**11:40 – 12:00** S.-I. Nakagiri (Kobe U.)

*The coupled sine-Gordon equations as nonlinear second order evolution equations.*

## **Lunch**

### **14:00 – 15:20 Parallel Sessions of 40-minute Lectures**

#### **1. Matrix Analysis, II (Room A, Chairman: T. Ando)**

(a) F. Hiai (Tohoku)

*Random matrix models in free probability theory.*

(b) C. R. Johnson (William and Mary)

*Determinantal inequalities: Ancient history and recent advances.*

#### **2. Convex Analysis, II (Room B, Chairman: S. Y. Wu)**

(a) Y. Alber (Technion-Israel Inst. Tech.)

*Generalized projections and orthogonal decompositions in Banach spaces.*

(b) Q. H. Ansari (Aligarh Muslim U., India),

*The system of vector equilibrium problems and its applications.*

**3. Optimization Theory, II (Room C, Chairman: H. C. Lai)**

(a) Anthony T.-M. Lau (Alberta)

*Invariantly complemented subalgebras in the dual of the Fourier algebra.*

(b) K. Mizukami (Hiroshima U.)

*New recursive algorithm for solving algebraic Riccati equation with small parameter.*

**4. Stochastic Analysis (Room D, Chairman: Y. J. Lee)**

(a) T. Hida (Meijo)

*Reversibility and irreversibility of random evolutionary phenomena in terms of white noise.*

(b) D. Nualart (U. of Barcelona)

*Stochastic calculus with respect to fractional Brownian motion.*

**15:40 – 16:40 Parallel Sessions of 20-minute Talks**

**Room A** Chairman: Denny Leung

**15:40 – 16:00** T. Nishishiraho (U. of the Ryukyus)

*The best approximation by projections in Banach spaces.*

**16:00 – 16:20** P. L. Papini (U. of Bologna)

*On weakly uniformly convex spaces, according to Calder.*

**16:20 – 16:40** C. Zanco (U. di Milano)

*Almost-flat locally-finite tilings of spheres in Banach spaces.*

**Room B** Chairman: P. Y. Wu

**15:40 – 16:00** T. Y. Tam (Auburn U.)

*Numerical ranges and Lie groups.*

**16:00 – 16:20** K. Okubo (Hokkaido U. of Ed)

*Uniqueness of matrix square roots under the restriction of the numerical range.*

**16:20 – 16:40** O. Pashaev (Academia Sinica)

*Equivalence relation and bilinear representation for derivative nonlinear Schrödinger type equations.*

**Room C** Chairman: L. J. Lin

**15:40 – 16:00** I. Beg (Kuwait U.)

*Random fixed points and iteration process for asymptotically nonexpansive random maps.*

**16:00 – 16:20** D. Kuroiwa (Shimane U.)

*Set optimization with set-valued maps.*

**16:20 – 16:40** N. Shioji (Yokohama Nat'l U.)

*Existence of periodic solutions under saddle point type conditions.*

**Room D** Chairman: Fon-Che Liu

**15:40 – 16:00** T. Ogiwara (Josai U.)

*Monotonicity and asymptotical stability of traveling waves for some degenerate diffusion equations,*

- 16:00 – 16:20 K. Taira (U. of Tsukuba)  
*Positive solutions of diffusive logistic equations.*
- 16:20 – 16:40 N. R. Shieh (Nat'l Taiwan U.)  
*Recent Analysis of Brownian fractals.*

**Banquet at 19:00 at Kingship Hotel**

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**Wednesday, Jan. 19, 2000**  
**College of Science Building, NSYSU**

**08:30 – 09:30 Keynote speech** by Gilles Pisier (Texas A&M, Paris VI)  
*Similarity problems and length.* (Chairman: P. Y. Wu)

**09:50 – 11:10 Parallel Sessions of 40-minute Lectures**

1. **Operator Algebras (Room A, Chairman: N. C. Wong)**
  - (a) L. G. Brown (Purdue)  
*Cancellation properties of Murray-von Neumann Equivalence.*
  - (b) M. Kusuda (Kansai U.)  
 *$C^*$ -crossed products of  $C^*$ -algebras with the weak Banach-Saks property by coactions.*
2. **Nonlinear PDEs, I (Room B, Chairman: J. S. Guo)**
  - (a) M. Mimura (Hiroshima U.)  
*Singular limit procedures in reaction-diffusion equations.*
  - (b) J. N. Wang (Cheng Kung U.)  
*Inverse backscattering in even dimensions.*
3. **KKM and Fixed Point Theory, I (Room C, Chairman: L. J. Lin)**
  - (a) S. Park (Seoul)  
*Fixed point and non-retract theorems classical circular tours.*
  - (b) G. X. Z. Yuan (Queensland)  
*The study of KKM theory and some applications.*
4. **Fourier Analysis (Room D, Chairman: C. P. Chen)**
  - (a) S. Igari (Tohoku)  
*An estimate of the Kakeya maximal operator.*

**Lunch**

**Sight-seeing Tour of City Kaohsiung**

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**Thursday, Jan. 20, 2000**  
**I-Shou University**

**08:40 – 09:10** Welcome Message from President Shen-Li Fu of I-Shou University

## 09:20 – 10:40 Parallel Sessions of 40-minute Lectures

### 1. Banach Space Theory, II (Room A, Chairman: S. T. Tu)

(a) B. S. Tam (Tamking U.)

*A cone-theoretical approach to the spectral theory of positive linear operators: the finite dimensional case.*

(b) G. Ding (Nankai)

*On the perturbations and extension of isometries.*

### 2. Nonlinear PDEs, II (Room B, Chairman: K. M. Hui)

(a) S. Yotsutani (Ryukoku)

*Canonical forms related with radial solutions of semilinear elliptic equations and its applications.*

(b) H. C. Wang (Tsing Hua U.)

*Semilinear elliptic equations in unbounded domains.*

### 3. KKM and Fixed Point Theory, II (Room C, Chairman: L. J. Lin)

(a) W. A. Kirk (Iowa)

*Fixed point theory and nonexpansive mappings.*

(b) W. Takahashi (Tokyo Inst. of Tech.)

*Approximating fixed points and convex minimization problems.*

### 4. Operator Semigroups, II (Room D, Chairman: W. Arendt)

(a) C. C. Kuo (Fu Jen Catholic U.)

*On the linear Volterra equations and integrated solution families.*

(b) P. Q. Vu (Ohio)

*The Lyapunov-Sylvester equations and asymptotic behavior of differential equations.*

## 11:00 – 12:00 Parallel Sessions of 20-minute Talks

### Room A Chairman: K. Goebel

11:00 – 11:20 A. Bufetov (Independent U. of Moscow)

*Ergodic theorems for actions of several contracting operators.*

11:20 – 11:40 B. Randrianantoanina (Miami U.)

*Isometries and contractive projections in Orlicz spaces.*

11:40 – 12:00 N. Randrianantoanina (Miami U.)

*Non-reflexive subspaces of  $K(H)$ .*

### Room B Chairman: H. C. Lai

11:00 – 11:20 J. A. van Casteren (U. of Antwerp)

*Some properties of the KMS-function.*

11:20 – 11:40 C. J. Zhang (Huaibei Coal Teacher's College)

*A class of Implicit variational Inequalities with Applications to Nash Limitations Equilibrium Problem.*

11:40 – 12:00 K. Sankar (Sri venkateswara college of engineering)

*Magic squares.*



**Room C** Chairman: J. Howroyd

**11:00 – 11:20** S. T. Tu (Chung Yuan Christian U.)

*Some families of ordinary and partial fractional differntegral equations.*

**11:20 – 11:40** W. K. Tang (Nayang Tech. U.)

*On Baire-1 Functions.*

**11:40 – 12:00** C. W. Leung (Chinese U. of Hong Kong)

*Vector-valued submarkov operators and recurrent iterated functions systems.*

**Room D** Chairman: C. P. Chen

**11:00 – 11:20** D. Dinh (Inst. of Information Tech., Vietnam)

*Continuous algorithms in multivariate  $n$ -term approximation by families of integer translates of mixed dyadic scales of a single function.*

**11:20 – 11:40** H. Gunawan (Inst. of Tech., Indonesia)

*Weighted estimates for Stein's maximal function.*

**11:40 – 12:00** E. Nakai (Osaka Kyoiku U.)

*On generalized fractional integrals.*

### **Lunch**

### **14:00 – 15:20 Parallel Sessions of 40-minute Lectures**

#### **1. Banach Space Theory, III (Room A, Chairman: N. C. Wong)**

(a) Borlueh Lin (Iowa)

*Some properties related to nested sequences of balls in Banach spaces.*

(b) J. Howroyd (London)

*Projection theorems for fractal dimensions.*

#### **2. Matrix Analysis, III (Room B, Chairman M. H. Shih)**

(a) Wen-Wei Lin (Tsing-Hua U.)

*Canonical Forms for Hamiltonian and Symplectic Matrices and Pencils.*

(b) G. Heinig (Kuwait U.)

*Fast Fourier techniques in structured matrices.*

#### **3. Nonlinear PDEs, III (Room C, Chairman: S. Yotsutani)**

(a) K. M. Hui (Academia Sinica)

*Singular limit of solutions of some degenerate parabolic equations.*

(b) S. Y. Tzeng (Changhau U. of Ed.)

*A minimax method for semilinear elliptic equations.*

#### **4. Value distribution theory, III (Room D, Chairman: I. V. Ostrovskii)**

(a) S. Mori (Yamagata U.)

*A space of meromorphic mappings and deficiencies.*

(b) A. P. Singh (U. of Jammu)

*Dynamics of composite entire functions.*

### **15:40 – 16:40 Keynote speech by R. T. Rockafellar (Washington)**

*Variational analysis and optimization.* (Chairman: H. C. Lai)

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Friday, Jan. 21, 2000

Sight-seeing Tour of Kenting National Park

## Stuttle Buses Pick-up time table

### Monday (1/17)

- Morning: Hotels  $\rightarrow$  Campus
  - Howard: 7:30AM Bus #5 (40 seater Bus  $\times$  1)
  - Kingship:
    - \* 7:40AM Bus #1, #2 (20 seater Bus  $\times$  2)
    - \* 8:00AM Bus #4 (20 seater Bus  $\times$  1)
  - Chinatrust
    - \* 7:40AM Bus #3 (20 seater Bus  $\times$  1)
    - \* 7:50AM Bus #4 (20 seater Bus  $\times$  1)
- Evening: Campus  $\rightarrow$  Hotels  
All Buses start at 17:30PM at pick-up point in front of College of Science Building.

### Tuesday (1/18)

- Morning: Hotels  $\rightarrow$  Campus: Same as Monday morning
- Evening:
  - Campus (17:00PM)  $\rightarrow$  Hotels  $\rightarrow$  Banquet (Kingship)
    - \* Bus #1, #2, #3, #4  $\rightarrow$  Kingship  $\rightarrow$  Chinctrust (#3, #4 18:45PM)  $\rightarrow$  Banquet (Kingship)
    - \* Bus #5  $\rightarrow$  Howard (18:30PM)  $\rightarrow$  Banquet (Kingship)
  - Campus (18:30PM)  $\rightarrow$  Banquet (Kingship)
    - \* Bus #1, #2  $\rightarrow$  Banquet (Kingship)
  - Banquet (21:00PM)  $\rightarrow$  Hotels & Campus
    - \* Bus #5  $\rightarrow$  Howard
    - \* Bus #3, #4  $\rightarrow$  Chinatrust & Campus

### Wednesday (1/19)

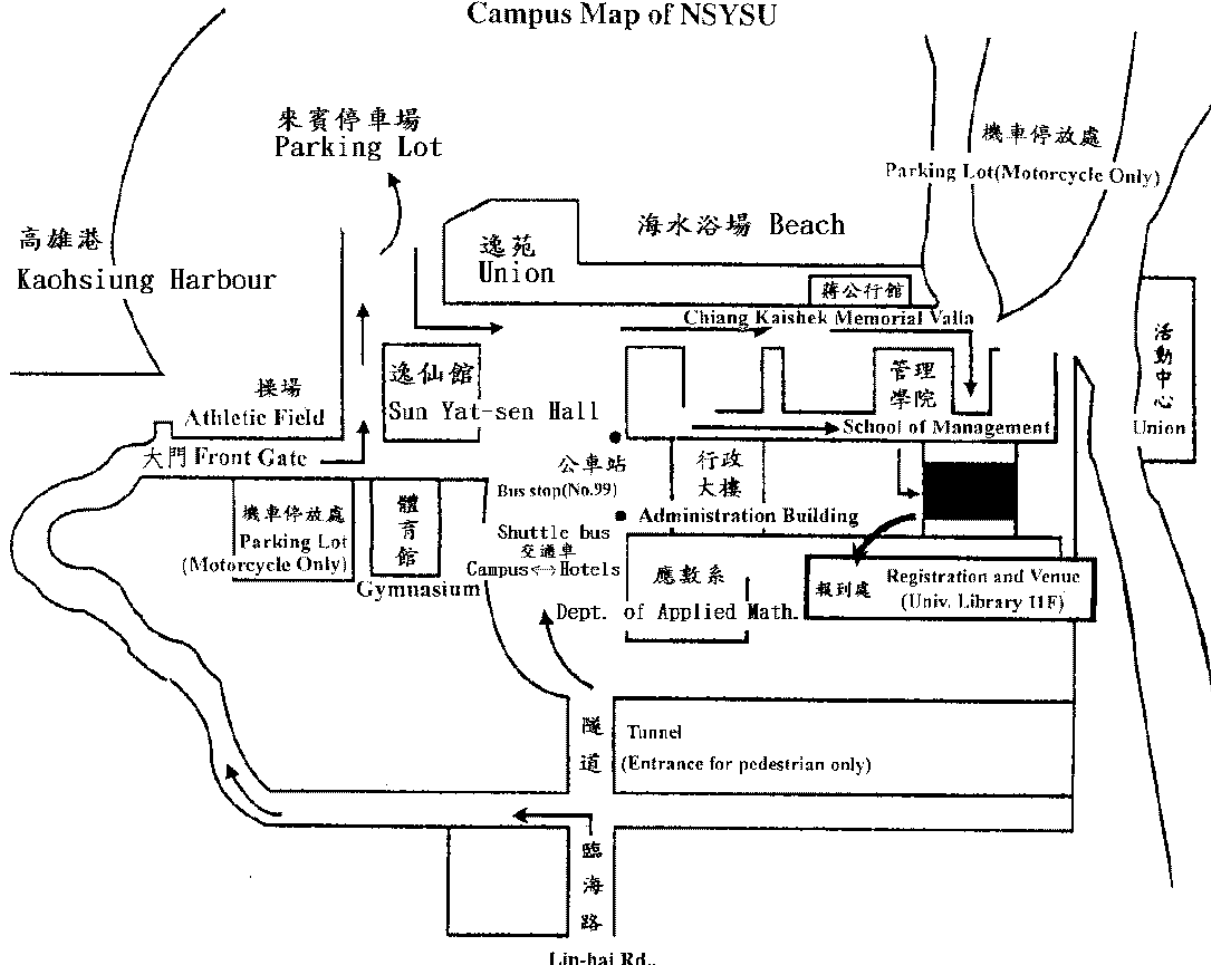
- Morning: Same as Monday morning. But
  - Howard: Bus #6 (40 seater Bus  $\times$  1) instead of Bus #5
- Noon:
  - All Buses to Hotels start at 12:30PM
    - \* Kingship & Chinatrust: #1, #2
    - \* Howard: Bus #3
  - Tour Buses (Bus #6, #7) start at 12:30PM

### Thursday (1/20)

- Morning:
  - Howard: Bus #5 7:00AM
  - Kingship: Bus #1, #2, #8 (40 seater bus) 7:00AM

- Chinatrust: Bus #1, #2 7:10AM
- Campus: Bus #3 7:00AM
- Evening
  - All Buses to Hotels start at 17:30PM
  - Bus #1, #2 → Chinatrust & Kingship
  - Bus #5 → Howard

**Campus Map of NSYSU**



In addition:

1. The rate for guest parking in NT\$60/day. No charge for motorcycle. Vehicles parked in non-designated area will be subject to tow. (There will be a processing fee of NT\$ 1,300 for each violating car and NT\$500 for each motorcycle.)
2. Attendants for the conference are eligible for a discount parking rate at NT\$20/day. See registration desk for detail.