

## EPMESC IX

University of Macau, Nov. 25-28, 2003

The 9th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science

EPMESC IX Conference Secretariat  
Faculty of Science and Technology  
University of Macau  
PO Box 3001, Macao  
Fax: (853) 838314  
e-mail: [epmesc2003@umac.mo](mailto:epmesc2003@umac.mo)



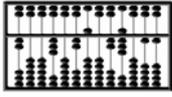
Dear colleague,

It is our pleasure to announce the final program of EPMESC IX. We have scheduled from over thirty countries and regions, sixteen keynote lectures, ninety one paper presentations and eighteen Student-Paper-Competition presentations in the upcoming conference. We are expecting a highly dynamic and fruitful meeting.

We would like to take this opportunity to remind you again to book your hotel accommodation now as the numbers of visitor are increasing and hotel rooms are in high demand in Macao. Information on hotel booking can be obtained through our conference web-site.

Finally, we would like to thank you again for contributing to our conference and we look forward to meeting you in Macao.

Sincerely yours,  
EPMESC IX Organizing Committee  
November 2003



## EPMESC IX

University of Macau, Nov. 25-28, 2003

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The 9th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science

### Commuting to the Conference Site

The EPMESC IX is held at the University of Macau International Library, near the Sports Complex of the University within a 5-minute walking distance from the main campus. There are three ways for guests to come to Macao:

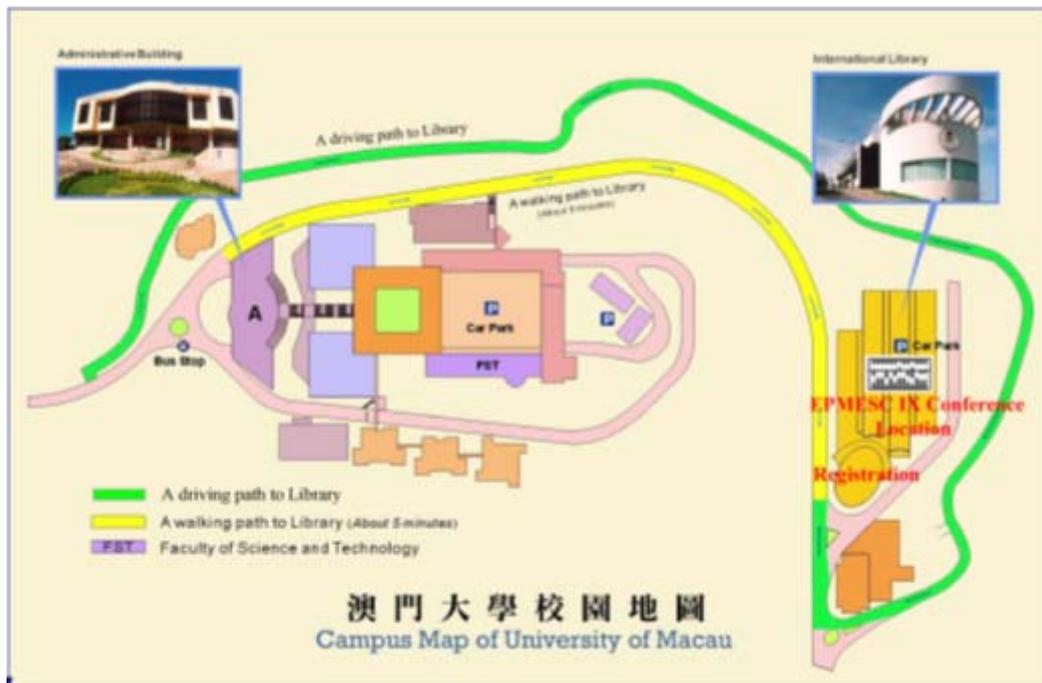
- 1) Through Hong Kong to Macao by jetfoil (By Sea);
- 2) Directly by airplane to Macao international Airport (By Air);
- 3) Through Chinese border in Zhuhai to Macao (By Land).

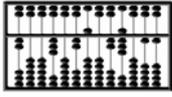
#### From Hong Kong to Macao (By Sea)

Taxi will be the most convenient way to access the Shun Tak Ferry Terminal, for ferries that travel between Hong Kong and Macau. In the Shun Tak Ferry Terminal

- 1) proceed to the 3<sup>rd</sup> floor to purchase ticket form Hong Kong to Macao. You are advised to purchase the return jetfoil ticket at the same time only if necessary. Saturday evening and Sunday can be the peak period for obtaining ticket to go from Macao to Hong Kong. Otherwise, you can buy the return ticket in Macau.
- 2) Turbojet operates almost 24 hours a day with frequency of every 15-30 minutes. Prices range from HK\$130 to 170, for all air-conditioned and decent seat arrangement even in the Economy Class.
- 3) From the ticketing counter to the customs desk, 10-15 minutes will be enough. You are safe to catch a jetfoil that departs in 30-45 minutes.
- 4) Before you check-in at the terminal, your luggage will be weighted. Large luggage items will be charged HK\$20-30 per item and stored in luggage area. You will claim back your luggage after arriving at the Ferry Terminal in Macao. Lock your luggage if there are any valuables.
- 5) Remember to get a seat number before boarding the ferry.
- 6) The whole journey takes about one hour.

Having arrived Macao, it is strongly recommended to take a taxi to the conference site or the hotel.





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# **Basic Information for Presentation Preparation**

## **EPMESC IX**

**Macao, November 25 – 28, 2003**

### **Time**

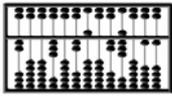
- Keynote Lecture: 30 minutes per lecture including Q&A
- Paper presentation: 20 minutes per presentation including Q&A
- Student-paper presentation: 20 minutes per presentation including Q&A

### **Presentation equipment available**

- Overhead transparency projector
- LCD projector with connection to an on-site computer operating with Windows. The supporting presentation software in the on-site computer is Microsoft Office which includes PowerPoint.
  - ✓ To control smooth flow of presentations, we do not allow connection of presenter's own portable computer to the on-site projector.
  - ✓ To use this option, we require the presenter to bring her/his presentation file in a CD or a 3.5 inches floppy disc compatible to the tools specified above.

### **Presentations**

- If using computer for presentation is your choice, please submit your CD or floppy disc containing your presentation file at the conference desk for compatibility check upon registration.
- You are advised to check in with your Session Chairperson 15 minutes before the session begins so that your presentation file (if any) can be uploaded to the on-site conference computer. Technical assistant will be available on site at your service.
- Presentation time is controlled by our Session Chairperson. Please keep your presentation within the allowable time. Your Session Chairperson will signal you 5 minutes before the end of your presentation period.



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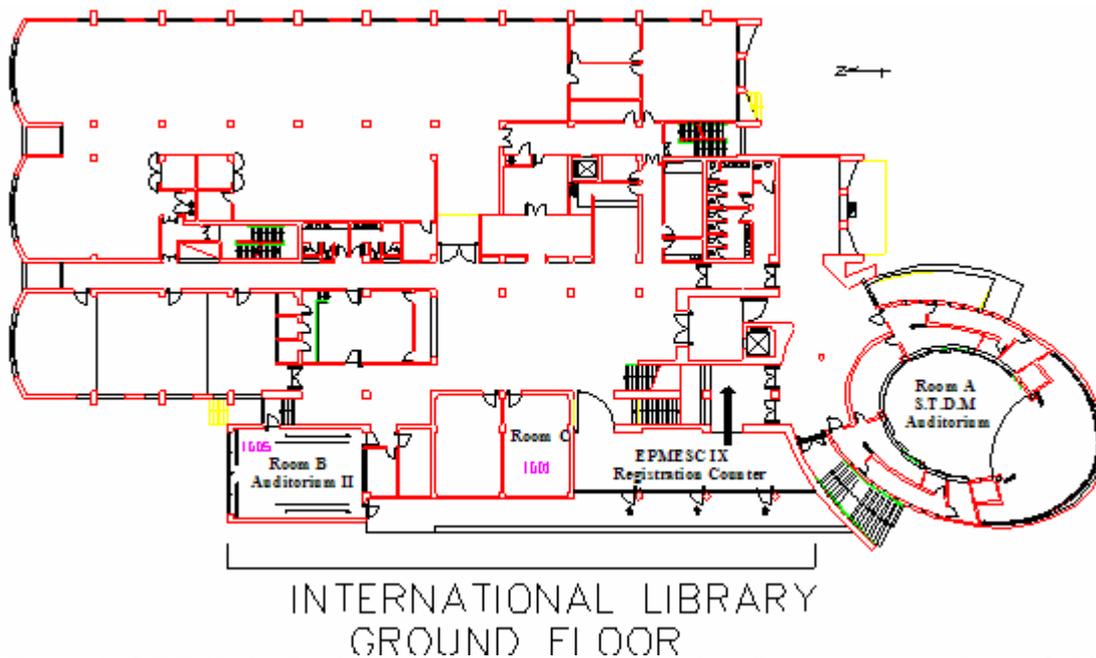
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## Final Program

### November 24, 2003 (Mon)

15:00- 19:00 Pre-Registration at conference site located at the International Library of University of Macau

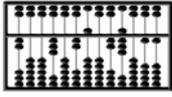


Room A: S.T.D.M. Auditorium

Room B: Auditorium II

Room C: IG01





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## November 25, 2003 (Tue)

8:00- 8:45      **Registration and reception with refreshment**

**9:00-9:30      OPENING CEREMONY**  
**PRESIDED OVER BY DR. CHUI SAI ON, SECRETARY FOR SOCIAL AFFAIRS  
AND CULTURE OF MACAO SAR**

### KEYNOTE LECTURES Nov. 25, 2003 (Tue)

**Session Chair: V. P. Lu**

**Venue: Room A**

9:30-10:00      **Energy band Analysis for Periodical Wave-guides**  
W. X. Zhong (Dalian University of Technology, China)

10:00-10:30      **Modeling Cementitious Materials Behavior**  
J. M. Catarino (Laboratório Nacional de Engenharia Civil, Portugal)

10:30-11:00      **Instabilities in Deformation Processes of Solids**  
I. Doltsinis (University of Stuttgart, Germany)

**11:00-11:20      COFFEE BREAK**

**Session A1.1 Numerical Methods**  
**Session Chair: Y.-P. Li**

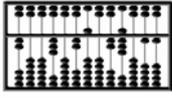
**Nov. 25, 2003 (Tue)**  
**Venue: Room A**

11:20-12:40      **Procedure for non-stationary PDF solution of non-linear stochastic oscillators**  
*G.K. Er, V.P. Lu and S. Frimpong*

**Improvement for weighting functions in element free Galerkin method (EFGM)**  
*X. Z. Lu and J. J. Jiang*

**Numerical solution of a singular Volterra integral equation by piecewise polynomial collocation**  
*T.Diogo, S.Valtchev and P.Lima*

**A variational approach to boundary element solution of helmholtz problems**  
*Y. Kagawa, N. Wakatsuki, Y. Sun and L. Chai*



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**The 9th International Conference on Enhancement and Promotion  
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**Session B1.1 Structural Mechanics**  
**Session Chair: M.S. Subrahmanyam**

**Nov. 25, 2003 (Tue)**  
**Venue: Room B**

- 11:20-12:40 **The use of a non-linear numerical analysis to investigate the behaviour of reinforced concrete flat slabs in the vicinity of edge columns**  
*K.A. Murray, D.J. Cleland, S.G. Gilbert and R.H. Scott*
- Object-oriented finite element programming for reinforced concrete nonlinear analysis**  
*F. Jiang, B. Li, L. Ding and A. Deeks*
- Optimal design of composite thin-walled beam structures with geometrically nonlinear behavior**  
*J. Barradas Cardoso, L.G. Sousa and A.J. Valido*
- Nonlinear dynamic calculation of a new type flexible suspension bridge**  
*W.B. Yao*

**Session C1.1 Physics and Material Science**  
**Session Chair: I. N. Chan**

**Nov. 25, 2003 (Tue)**  
**Venue: Room C**

- 11:20-12:40 **Perturbed periodic waves for a system of coupled nonlinear Schrödinger equations (CNLS)**  
*S.C. Tsang and K.W. Chow*
- The calculation of the optical constants of indium tin oxide films**  
*L.J. Meng, F. Placido, V. Teixeira and M.P. dos Santos*
- Monte-Carlo modeling of structure and properties of interphase layers of polymer matrix composites**  
*Yu.G. Yanovsky and A.V. Teplukhin*
- Quantum Monte Carlo calculations of silicon self-interstitial defects**  
*W. K. Leung and R. J. Needs*

**12:50-14:30 LUNCH**

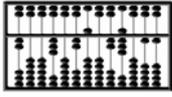
**KEYNOTE LECTURES**  
**Nov. 25, 2003 (Tue)**

**Session Chair: W. X. Zhong**

**Venue: Room A**

- 14:30-15:00 **Recent Advances of Study on Plate Vibration Research in The University of Hong Kong**  
*Y. K. Cheung (The University of Hong Kong, Hong Kong)*
- 15:00-15:30 **Recent Discoveries Related to the Use of Wittrick-Williams Algorithm to Solve Transcendental Eigenproblems**  
*F. W. Williams (City University of Hong Kong, Hong Kong)*
- 15:30-16:00 **Constitutive Modelling of Woven Textile Reinforcements and its Application to High-Pressure Hydraulic Hoses**  
*H. A. Mang (Vienna University of Technology, Austria)*

**16:00-16:20 COFFEE BREAK**



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## The 9th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science

### Session A1.2 Geographical Information Systems Session Chair: Z.-S. Wang

Nov. 25, 2003 (Tue)  
Venue: Room A

- 16:20-17:20 **Quick generation of geographic entities in an urban disaster prevention system**  
*G. Pan and A. Ren*
- Development of a database linked to a GIS for coupling with groundwater modeling tools**  
*I. Ruthy, Ph. Orban, R.C. Gogu and A. Dassargues*
- Spatial geotechnical database for planning and design in the Lisbon area (Portugal)**  
*I.M. Almeida, F.M.S.F. Marques and G.B. Almeida*

### Session B1.2 Structural Mechanics Session Chair: K. P. Kou

Nov. 25, 2003 (Tue)  
Venue: Room B

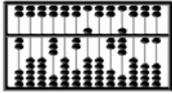
- 16:20-17:40 **Static and dynamic testing of a skewed overpass bridge**  
*M. Xu, J. Rodrigues and L. O. Santos*
- Discrete optimum design of hollow section lattice girders**  
*P. J. S. Cruz*
- Flexural torsional analysis of thin-walled curved beams with open cross section accounting warping**  
*H.J. Duan and Q.L. Zhang*
- Behaviour factors of MR steel frames with semi-rigid connections – a parametric study**  
*C. Rebelo and L. Magalhães*

### Session C1.2 Physics and Material Science Session Chair: C. T. Kwok

Nov. 25, 2003 (Tue)  
Venue: Room C

- 16:20-18:00 **Molecular structure and elastic modulus of an oriented crystalline polymer**  
*U. Gafurov*
- Low velocity impact on laminates reinforced with Polyethylene and Aramidic fibers**  
*M.A.G. Silva, C. Cismaşiu and C.G. Chiorean*
- Numerical study of an electret filter composed of split-type fibers**  
*Y.H. Cao, C.S. Cheung and Z.D. Yan*
- Quantum Monte Carlo calculations of the pair correlation functions in jellium**  
*W. K. Leung and R. J. Needs*
- Quantum Monte Carlo study of the relativistic spin-polarized jellium**  
*W. K. Leung and R. J. Needs*

**19:00-21:00 DINNER**



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## November 26, 2003 (Wed)

### Session A2.1 Numerical Methods Session Chair: S. C. Tam

Nov. 26, 2003 (Wed)  
Venue: Room A

9:00-11:00

**Computational methods for a singular boundary-value problem**

*P.M. Lima and M.P. Pato*

**A linear complexity algorithm to solve large sparse linear systems**

*J.L. Almará*

**Transformed-space non-uniform pseudospectral time-domain method**

*W. K. Leung*

**A particle-based mechanistic model for drape simulation**

*K. Y. Sze, X.H. Liu and C. Wang*

**Numerical implementation of a Hybrid/Mixed Stress finite element model based on Legendre polynomials for the elastic analysis of 3-D structures**

*M.J.V. Silva and E.M.B.R. Pereira*

**A stiffness equation transfer method in frequency domain for transient structural response**

*H. Xue*

### Session B2.1 Artificial Intelligence and Software Engineering Session Chair: M.-C. Dong

Nov. 26, 2003 (Wed)  
Venue: Room B

9:00-11:00

**Controlled solidification in continuous casting using neural networks**

*S. Bouhouche, M.S. Boucherit, M. Lahreche and J. Bast*

**Semantic & morphological analysis and mouse tracking technology in translation tool**

*F. Wong, M.C. Dong, Y.P. Li and Y.H. Mao*

**Estimation of area population referring to other areas**

*M. Eto*

**An application of expert system in real-estate industries**

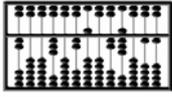
*E. Wibisono*

**Neural networks in automotive engine tuning**

*C.M. Vong, P.K. Wong and Y. P. Li*

**Case-based reasoning in airport terminal planning**

*C.M. Vong, P.K. Wong and Y. P. Li*



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## Session C2.1 Geotechnics

Session Chair: **M. H. Lok**

**Nov. 26, 2003 (Wed)**

**Venue: Room C**

- 9:00-11:00 **Solving geomechanical problems with UWay FEM package**  
*Yu. G. Yanovsky, A.N. Vlasov, M.G. Mnushkin and A.A. Popov*
- Three-dimensional finite element analysis of multi-element composite foundation**  
*J.J. Zheng, J.H. Ou and X.Z. Wang*
- Simplified methods for kinematic soil-pile interaction analysis**  
*J.A. Santos*
- Numerical simulation of soils involving rotation of principal stress axes**  
*Y.X. Liu, Y.R. Zheng and X. Jiang*
- Estimation of applied loads on a driven pile at different depths**  
*H. Novais-Ferreira*
- Influence of some parameters on the behavior of diaphragm wall**  
*H.S. Leong*

**11:00-11:20 COFFEE BREAK**

## KEYNOTE LECTURES

**Nov. 26, 2003 (Wed)**

Session Chair: **S. Valliappan**

**Venue: Room A**

- 11:20-11:50 **Advances in Sparse Solver for Finite Element Analysis**  
*M. W. Yuan (Peking University, China)*
- 11:50-12:20 **On the Duality Between Hybrid and Block Elements**  
*E. R. de Arantes e Oliveira (Instituto Superior Técnico, Portugal)*
- 12:20-12:50 **Multiscale Methods and Its Applications to Nano-Mechanics and Materials**  
*W. K. Liu (Northwestern University, USA)*

**12:50-14:30 LUNCH**

## KEYNOTE LECTURES

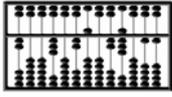
**Nov. 26, 2003 (Wed)**

Session Chair: **W. K. Liu**

**Venue: Room A**

- 14:30-15:00 **Wave Barriers for Reduction of Train-induced Vibrations**  
*Y. B. Yang (Taiwan University, Taiwan)*
- 15:00-15:30 **Fuzzy Finite Element Analysis of Smart Structures**  
*S. Valliappan (University of New South Wales, Australia)*
- 15:30-16:00 **High-accuracy Difference and Meshless Methods for Fluid and Solid Mechanics**  
*A.I. Tolstykh (Russian Academy of Sciences, Russia)*

**16:00-16:20 COFFEE BREAK**



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**Session A2.2 Structural Mechanics**  
**Session Chair: K. V. Yuen**

**Nov. 26, 2003 (Wed)**  
**Venue: Room A**

- 16:20-17:40 **Analysis of complex parametric vibrations of plates and shells using the Bubnov-Galerkin approach**  
*J. Awrejcewicz and A. V. Krysko*
- Flexible multibody systems models using composite materials components**  
*M. A. Neto and J. A. C. Ambrósio*
- Damage detection in concrete dams using dynamic continuous monitoring and numerical models**  
*S. Oliveira, J. Rodrigues, P. Mendes and A. Campos Costa*
- Displacement-Based Design Applied to a Reinforced Concrete Building**  
*R. Bento and S. Falcão*

**Session B2.2 Artificial Intelligence, Software Engineering  
and Software Technology**  
**Session Chair: E.-H. Wu**

**Nov. 26, 2003 (Wed)**  
**Venue: Room B**

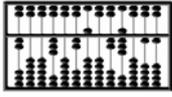
- 16:20-17:40 **The model of the artificial immune response**  
*X. Dai, C.K. Li and A.B. Rad*
- VHDL modeling of MPEG audio layer 1 decoder**  
*Mamun Bin Ibne Reaz, Mohd. S. Sulaiman and Mohd. Alauddin Mohd. Ali*
- A measurement model for C++ program complexity analysis**  
*S. Kanmani, P. Thambidurai and V. Sankaranarayanan*
- An object-oriented model for combined implementation of the finite element and meshless methods**  
*P. Nanakorn and C. Somprasert*

**Session C2.2 Computer Aided Design, Engineering and Instruction**  
**Session Chair: P. K. Wong**

**Nov. 26, 2003 (Wed)**  
**Venue: Room C**

- 16:20-17:40 **Construction planning tool based on virtual reality technology**  
*P.G. Henriques and A.Z. Sampaio*
- Web-enabled quick response technology application in advanced product design**  
*S. F. Wong and W.W.C. Chung*
- Design of coils with potential use in transcranial magnetic stimulation**  
*A. Ferraz, L. V. Melo and D. M. Sousa*
- Computer based techniques to design antennas in microwave diagnostics for fusion plasmas**  
*M. Manso, J. Borreicho, L. Farinha, S. Hacquin, F. Silva, P. Varela and D. Wagner*

**19:00-21:00 DINNER**



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**November 27, 2003 (Thu)**

**Session A3.1 Numerical Methods**  
**Session Chair: C. M. Cheng**

**Nov. 27, 2003 (Thu)**  
**Venue: Room A**

9:00-11:20

**Steady state of deformation of plane elliptical particles: a discrete element model simulation**

*A. Eliadorani*

**Modelling of shape and profile by using finite element method in cold rolling of thin strip**

*Z.Y. Jiang, A.K. Tieu and C. Lu*

**Numerical simulation for cold rolling of thin strip during work roll edge contact**

*Z.Y. Jiang, H.T. Zhu and A.K. Tieu*

**Finite element analysis for bulging characteristics of radial slot safety diaphragms**

*G.F. Gao and X.W. Ding*

**A moving mesh mixed method for advection-diffusion equations**

*Y. Liu and R.F. Santos*

**Finite element simulation of a tri-axial piezoelectric sensor**

*N. Wakatsuki, Y. Kagawa and M. Haba*

**Parametric analysis and optimization for Flip Chip package**

*Q. Y. Li, J. S. Liang and D. G. Yang*

**Session B3.1 Computer Aided Design, Engineering and Instruction**  
**Session Chair: L. M. Tam**

**Nov. 27, 2003 (Thu)**  
**Venue: Room B**

9:00-11:20

**Computer-aided design and evaluation of ground source heat pump systems for Macao**

*L.M. Tam and K.H. Lai*

**Evaluation of interior thermal environment for light buildings**

*Z. Wang and J. Brau*

**HRBFS—A network simulator of fire in high-rise building**

*X.Y. Xie, A. Z. Ren and X. Q. Zhou*

**BatchHeat – Software for pinch analysis for batch processes**

*A.C. Pires, M.C. Fernandes, H.A. Matos and C.P. Nunes*

**EM Wave Simulation: a simulation and visualization package**

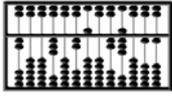
*W. K. Leung*

**Theory of digitized conjugate surface and solution to conjugate surface**

*L.Y. Xiao, D.X. Liao and C.Y. Yi*

**Mathematical modeling and computer simulation for redundant manipulators**

*Y. Li*



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## Session C3.1 Fluid Mechanics and Applications

Session Chair: **V. K. Sin**

**Nov. 27, 2003 (Thu)**

**Venue: Room C**

- 9:00-11:20 **Optimization of aerodynamic shapes by means of Inverse Method**  
*R. S. Quadros and A. L. De Bortoli*
- Parallel algorithms for compressible fluid flows in the subsurface**  
*G. Alduncin and N. Vera-guzman*
- A micro mechanics model for cavitation**  
*J.M. Sánchez and D. Sá López*
- Simulation of mixing and chemical reacting flows over a flat wall**  
*A. L. de Bortoli*
- Numerical simulation of Moffatt Vortices in a V-shaped notch**  
*C. Lin and G. Yang*
- Numerical study for Multi-Solitary-Wave interaction of regularized Long-Wave equation**  
*C. Lin and G. Yang*
- Numerical – experimental interaction in hydrodynamics: an integrated approach for the optimal management of hydraulic structures and hydrographic basins**  
*M. Piroton, A. Lejeune, P. Archambeau, S. Epicum and B. Dewals*

**11:20-11:40 COFFEE BREAK**

## KEYNOTE LECTURES

**Nov. 27, 2003 (Thu)**

Session Chair: **D. Camotim**

**Venue: Room A**

- 11:40-12:10 **Applications of Toeplitz Iterative Solvers in Science and Engineering**  
*X.Q. Jin (University of Macau, Macao)*
- 12:10-12:40 **Numerical Modelling of Metal Forming - Current Practice and Advanced Applications**  
*S. Cescotto (University of Liège, Belgium)*

**12:50-14:30 LUNCH**

## KEYNOTE LECTURES

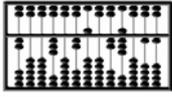
**Nov. 27, 2003 (Thu)**

Session Chair: **S. Cescotto**

**Venue: Room A**

- 14:30-15:00 **On Various Numerical Simulation Techniques for Perforation of Concrete Panel by Hard Projectile**  
*S. C. Fan (Nanyang Technological University, Singapore)*
- 15:00-15:30 **GBT-Based Computational Approach to Analyse the Geometrically Non Linear Behaviour of Steel and Composite Thin-Walled Members**  
*D. Camotim (Instituto Superior Técnico, Portugal)*

**15:30-15:50 COFFEE BREAK**



# EPMESC IX

University of Macau, Nov. 25-28, 2003

EPMESC IX Conference Secretariat  
Faculty of Science and Technology  
University of Macau  
PO Box 3001, Macao  
Fax: (853) 838314  
e-mail: [epmesc2003@umac.mo](mailto:epmesc2003@umac.mo)

**The 9th International Conference on Enhancement and Promotion  
of Computational Methods in Engineering and Science**

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**Session A3.2 Solid Mechanics**  
**Session Chair: D.-W. Xue**

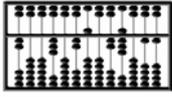
**Nov. 27, 2003 (Thu)**  
**Venue: Room A**

- 15:50-17:30    **Application of Green's function method to plane symmetrical contact mechanics problems**  
*Menghua Zhang and Mengshi Jin*
- Modeling and analysis of mechanical problems by hemi-variational inequalities**  
*S. Migórski*
- Computation and comparison of instability and bifurcation modes in frictional contact systems**  
*A.P. da Costa and J.A.C. Martins*
- Precise solution for the surface wave propagation in stratified anisotropic materials**  
*J. Xie and Y. Sun*
- Seismic behaviour of gas and oil buried pipelines subjected to ground liquefaction**  
*M.J. Falcão Silva and R. Bento*

**Session B3.2 Computer Aided Design, Engineering and Instruction**  
**Session Chair: Z. S. Guo**

**Nov. 27, 2003 (Thu)**  
**Venue: Room B**

- 15:50-17:30    **Computational exploratory data analysis in cotton spinning**  
*A.A. Cabeço Silva and M. E. Cabeço Silva*
- Wool fabrics sensorial perception using factorial analysis**  
*M.E. Cabeço Silva and A. C. Broega*
- Multimedia as a tool for distant learning of textile design**  
*M. Neves and J. Neves*
- Interactive animation and remote control in on-line courses**  
*Y. H. Liu and P. Lau*
- Analysis of sheet forming for cold press die**  
*Y. W. Ye and H. Liu*



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## Session C3.2 Fluid Mechanics and Applications

Session Chair: **K. M. Mok**

**Nov. 27, 2003 (Thu)**

**Venue: Room C**

15:50-17:50

**A methodology for delineating wellhead protection areas**

*J.P. Lobo Ferreira and B. Krijgsman*

**Combining stochastic simulations and inverse modelling for delineation of groundwater well capture zones**

*C. Rentier, M. Roubens and A. Dassargues*

**The diffusion model for long-term coastal profile evolution: numerical validating**

*A.V. Avdeev, E.V. Goryunov, M.M. Lavrentiev (Jr.) and R. Spigler*

**Characterisation of the sediment dynamics of Hac-Sá beach, Macao**

*F. S. B. F. Oliveira, C. Vicente and M. Clímaco*

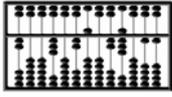
**Numerical experiment of thermal comfort in a bedroom equipped with air-conditioner**

*V.K. Sin, H.I. Sun, L.M. Tam and K.I. Wong*

**Pilot study on transboundary pollution analysis of Huai River**

*A.Q. Zhang, S.K. Han, L.S. Wang and H.S. Wu*

**19:00-21:00 DINNER**



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## November 28, 2003 (Fri)

### Session A4.1 Student Paper Competition

Session Chair: Y.-M. Li

Nov. 28, 2003 (Fri)

Venue: Room A

9:30-10:30

#### Inverse Problem of Liquid Stream with Free Surface

*I.E. Platonova and Yu.L. Menshikov*

#### Nonlinear analysis of spatial member structures

*G. Nie and Z. Zhong*

#### FEM analysis of the spatial reticulated structure constructed by rectangular pipes

*G. Nie, Z. Zhong and R. Qian*

### Session B4.1 Student Paper Competition

Session Chair: Z.-G. Gong

Nov. 28, 2003 (Fri)

Venue: Room B

9:30-10:30

#### A unified failure criterion for concrete under multi-axial loads

*P.E.C. Seow and S. Swaddiwudhipong*

#### Axial capacity prediction for driven piles at Macao using Artificial Neural Network

*W.F. Che, T.M.H. Lok, S.C. Tam and H. Novais-Ferreira*

#### Modeling of settlement of embankment on soft marine clay with vertical drains

*W.N. Sam, T.M.H. Lok and H. Novais-Ferreira*

### Session C4.1 Student Paper Competition

Session Chair: M. I. Vai

Nov. 28, 2003 (Fri)

Venue: Room C

9:30-10:30

#### A 2D FDTD full-wave code for simulating the diagnostic of fusion plasmas with microwave reflectometry

*F. da Silva, M. Manso, P. Varela and S. Heuroux*

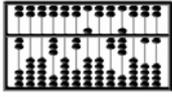
#### Effective improvement of Internet-based intelligent medical consultative system

*B.N. Li, M.C. Dong and M. I. Vai*

#### Variability of the solution of the redundant muscle force sharing in biomechanics due to the choice of physiological criteria

*M. P.T. Silva and J. A.C. Ambrósio*

10:30-10:50 COFFEE BREAK



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**Session A4.2 Student Paper Competition**  
**Session Chair: P. U. Mak**

**Nov. 28, 2003 (Fri)**  
**Venue: Room A**

10:50-11:50 **A three steps method for structural damage diagnosis based on FEM and vibration data**

*J. Xie and D.J. Han*

**The post-buckling behavior of open cross-section thin-walled columns in the context of the Generalized Beam Theory (GBT)**

*P. Simão and L. Simões da Silva*

**On the weighted residual method for rectangular flat plates**

*K.M. Lo, D.W. Xue and K.H. Lo*

**Session B4.2 Student Paper Competition**  
**Session Chair: D. Ding**

**Nov. 28, 2003 (Fri)**  
**Venue: Room B**

10:50-11:50 **Parametric study on constitutive modeling for predictions of diaphragm wall behavior**

*C.H. Ng and T.M.H. Lok*

**Modeling of hydrogen diffusion and  $\gamma$ -hydride precipitation process at a blunt notch in zirconium**

*X.Q. Ma, S. Q. Shi, C.H. Woo and L.Q. Chen*

**The influence of long-range action and boundary effect on vibration of the atom-string with finite atoms**

*X. Zhang*

**Session C4.2 Student Paper Competition**  
**Session Chair: X. S. Li**

**Nov. 28, 2003 (Fri)**  
**Venue: Room C**

10:50-11:50 **Design and implementation of machine translation system for web pages**

*C.W. Tang, F. Wong, and Y.P. Li*

**The conflict resolution at connected railway junctions**

*C.W. Tsang and T. K. Ho*

**Regulation of train service by coasting control in metro railway system**

*K.K. Wong and T.K. Ho*

**11:50-12:15 CLOSING CEREMONY  
PRESENTATION OF STUDENT PAPER COMPETITION AWARDS**

**12:30-14:30 LUNCH**

*End of Conference*