

# Programme of the colloquium

## Programme du colloque

Sunday, August 13, 2000 – Dimanche 13 août 2000

16:00-18:00 Welcoming and registration – Accueil et inscription

Monday, August 14, 2000 – Lundi 14 août 2000

9:00-10:00 Welcoming and registration – Accueil et inscription

### OPENING SESSION – SÉANCE D'OUVERTURE

*Structural Dynamics - Dynamique des Structures*

*Chairman: NGUYEN-DANG Hung :Président*

10:00 Opening ceremony - Cérémonie d'ouverture

10:30 Plenary lecture - Conférence générale :  
*Interaction of non-linear system, NGUYEN Van Dao*

11:00 *Moving vibration frequencies with constrained structural changes,* LAW THER R.

11:15 *Solution method of eigenproblems for nonclassically damped systems with multiple natural frequencies,* LEE In-Won

11:30 *Dynamics of the vehicles in changing direction,* DO Sanh, DINH Van Phong, NGUYEN Nhat Le, DU Quoc Thinh

11:45 General discussion - Discussion générale

12:00 End of session - Fin de séance

### SESSION II – SÉANCE II

*Fluid Mechanics - Mécanique des Fluides*

Monday, August 14<sup>th</sup> 2000 - Lundi 14 août 2000

*Chairman: RONDAY François :Président*

13:30 *Some recent applications of non-traditional numerical methods to water construction analysis in Vietnam,* PHAM Hong Giang

13:45 *Influence de la compressibilité et des gradients de pression sur les couches limites turbulentes,* NGUYEN Thi Phuong

14:00 *Numerical simulation of a turbulent impinging jet,* LE Song Giang

14:15 *Surface boundary integral method for three dimensional flow past a wing.* LE Thi Minh Nghia, PHAM Minh Vuong.

14:30 *Wave spectral transformation over irregular bottom and tides,* LA Thi Cang, VO-LUONG Hong Phuoc

14:45 *2-D model of flow and sediment transportation in a curved open channel,* NGUYEN Thi Bay, NGUYEN Ky Phung

15:00 *Restoring the 3-D hydrophysical structure of the coastal shallow water sea zone,* LE Thi Quynh Ha, SHNAIDMAN V.A.

15:15 General discussion - Discussion générale

15:30 Break and poster session - Pause et séance de poster

*Chairman: NGUYEN Van Dao :Président*

15:45 Plenary lecture – Conférence générale : *Thermal works in fluid mechanics : collaboration between the LMFT (Tunisia) and IRPHE-CNRS (France),* LE PALEC G., BOURNOT Ph. & al.

16:15 *Stochastic approach to convective motions driven by a localized buoyancy flux in the sea,* BOUCHE V.

17:00 General discussion - Discussion générale

17:15 Extra session communication :  
*Europ Continents industrial equipment presentation,* NGUYEN Anh Kiet

17:45 End of session - Fin de séance

### SESSION III – SÉANCE III

#### Fluid-Structure Interaction - Interaction Fluide-Structure

Tuesday, August 15 2000 - Mardi 15 août 2000

**Chairman: BOURNOT Ph. :Président**

08:30 Plenary lecture - Conférence générale :  
*Numerical modelling of interaction problem*, VALLIAPPAN S.

09:00 *Two problems on fluid-structure coupling connected with off-shore engineering*, LICHT Ch., TRAN Thu Ha

09:15 *Design of propellers, axial fans and turbines for maximum efficiency*, NGUYEN Thien Tong

09:30 *Differential-geometric aspects in multibody-fluid dynamics*, TRAN Thu Ha, MAISSER P.

10:00 General discussion - Discussion générale

10:15 Break and poster session - Pause et séance de poster

**Chairman: S. VALLIAPPAN :Président**

10:30 *Some hydrodynamical problems on natural processes and resources research for rational utilization and protection*, NGUYEN Van Diep, DUONG Ngoc Hai, NGO Huy Can & al.

11:00 *Modelling of geo-material and coupled analysis of the behavior of seabed subjected to sea wave*, MIURA K., PATHAK YADAV P., YOSHIDA N.

11:15 *Some results of recent research of ICOFFSHORE on offshore structures*, PHAM Khac Hung.

11:30 *Study of transient two-phase flow of the turbine start of the COO-2 hydroelectric storage power station*, MOTTE M.-A., LEJEUNE A.

11:45 General discussion - Discussion générale

12:00 End of session - Fin de séance

### SESSION IV – SÉANCE IV

#### Structural Mechanics I - Mécanique des Structures I

Tuesday, August 15 2000 - Mardi 15 août 2000

**Chairman: PHAM Hong Giang :Président**

13:30 Plenary lecture - Conférence générale :  
*Asymptotic analysis and modelling of bonded joints*, LICHT Chistian

14:00 *3D Finite element modelling of the peak and post peak behaviour of confined concrete columns*, LIU Jing and FOSTER Stephen J.

14:15 *Three dimensional numerical analysis of the boiling type of failure in cofferdam*, MIURA K., IMAFUKU M., FURUKAWA M., M. NASAWA M., C. SUPACHAWAROTE,

14:30 *Experimental studies of the shear strength of sub-base soil under receiving footings affected by construction vibration sources*, DUONG Hong Tham, LE Ba Luong, NGO Kieu Nhi

14:45 *Behaviour of bolted steel joint supported to simultaneously bending moment and axial forces*, LUU NGUYEN Nam Hai

15:00 *Analysing attacks of environment to reinforced concrete structures in bai bang chemical factory*, NGUYEN Viet Quang Hung; NGUYEN Viet Cuong

15:15 General discussion - Discussion générale

15:30 Break and poster session - Pause et séance de poster

**Chairman: AKKAS Nuri :Président**

15:45 Plenary lecture - Conférence générale :  
*Development of mechanics of marine structures in Vietnam*, NGUYEN Xuan Hung

16:15 *Regrettable failure*, LE kieu

16:30 *Structural control using CMAC neural network*, KIM Dong-Hyawn, SHIM Kyu-Hong, LEE In-Won

16:45 *An application on homogenisation method to the problem on wave propagation in a composite layer*, PHAM Chi Vinh

17:00 *Non-linear Dynamic analysis of landing gear by use of finite element method*, DOAN Duc Bao, GERADIN M.

17:15 *A new numerical method for resolving non-linear dynamic problems approximating acceleration by the hyperbolic cosine function*, DO Kien Quoc, NGUYEN Trong Phuoc

17:30 General discussion - Discussion générale

17:45 End of session - Fin de séance

**Wednesday, August 16, 2000**  
**Mercredi 16 août 2000**

**08:30 Excursion**

**19:00 Banquet**

**SESSION V - SÉANCE V**

**Fluid Mechanics and Geophysics –  
Mécanique des Fluides et Géophysique**  
**Thursday, August 17, 2000 - Jeudi 17 août 2000**

**Chairman: NGUYEN Tac An :Président**

08:30 Plenary lecture - Conférence générale :  
*Hydroinformatique et ecohydraulique au service des gestionnaires*, HIVER J.-M.

09:00 *Finite element method for the current model in Ganh Rai Bay*, VO Thanh Tan, LE Quang Toai

09:15 *Some biases in diagnostic QG vertical velocities arising from sampling synopticity errors: an investigation of possible corrections*, RIXEN Michel, BECKERS Jean-Marie, Nihoul J.C. J.

09:30 *Numerical model for wave-induced currents on gentle beach*, HUYNH Cong Hoai, LE Thi Minh Nghia, Olivier Thual, Dominique Astruc

09:45 General discussion - Discussion générale  
10:00 Break and poster session - Pause et séance de poster

**Chairman: HIVER J.M. :Président**

10:15 Plenary lecture – Conférence générale : *How to calculate the estuarine contaminant fluxes? A numerical approach applied to the north sea*. RONDAY François, MOUCHET Anne, REGNIER Pierre, WOLLAST Roland.

10:45 *Three- dimensional (3D) eco-hydrodynamic model and its application in the coastal and estuarine areas of Viet Nam*, BECKERS J.-M., DINH Van Uu , DOAN Van Bo, NIHOUL J.C.J.

11:00 *Numerical calculation of the thermohydraulic characteristics of oil-to-water heat-exchangers for automotive applications using different parallelization concepts*, FOGT Hannes, HEBENSTREIT, Michael, GOESZLER Angelika

11:15 *Soil linear interaction of a stage excavation tunnel from finite element consolidation analysis*, NGUYEN Anh Minh, VO Van Thanh, MIURA K.

11:30 *Bubble velocity measurements using binary image processing techniques*, BUI Dinh Tri.

11:45 General discussion - Discussion générale

**SESSION VI – SÉANCE VI**

**Computational Mechanics - Calcul numérique en Mécanique**  
**Thursday, August 17, 2000 - Jeudi 17 août 2000**

***Chairman: LICHT Christian :Président***

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13:30 Plenary lecture – Conférence générale :

*Revisiting early works of the aerospace laboratory of Liege, dual analysis, 60's and 70's, DEBONGNIE J.F., BECKERS P., NGUYEN-DANG Hung*

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14:00 *A new truly meshless Galerkin method*, DUFLOT Marc, NGUYEN-DANG Hung

14:15 *Dual analysis by mesh transformation of displacement model*, NGUYEN Tien Duong, BECKERS P.

14:30 *Invariant isoparametric metis displacement elements*, NGUYEN-DANG Hung and DANG Dinh Thi

14:45 *Static and dynamic analysis by the reproducing kernel particle method for structural 1-D, 2-D linear elastic*, NGUYEN Hoai Son, BECKERS P.

15:00 *Application of two-field finite elements to elastic-plastic : Step by step analysis*, NGUYEN-DANG Hung, NGUYEN Dinh Giang

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15:15 General discussion - Discussion générale

15:30 Break and poster session - Pause et séance de poster

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***Chairman: NGUYEN Thien Tong :Président***

15:45 *A general BEM for analysis of slope stability*, JIANG Yansheng, NGUYEN-DANG Hung and VENTURINI Wilson S.

16:00 *Mixed-mode delamination in laminated composites with R-curved effect*, YAN Ai-Min, NGUYEN-DANG Hung

16:15 *LAFRAME - An automatic program for limit analysis of plane frames*, NGUYEN An Danh

16:30 *A program of boundary element method for 3D elastic solids on a personal computer*, DO Quang Khanh, JIANG Yangsheng, NGUYEN-DANG Hung

16:45 *Effective length factors of double-stepped columns of single-span steel frame in industrial building with consideration of 3D behaviour of framework*, VU Quoc Anh

17:00 *Identification of constitutive equation of workpiece material for the modelling of chip formation*, MESLIN F., HAMANN J.C.

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17:15 General discussion - Discussion générale

17:30 Extra session communication :

*SAMCEF software and SAMTECH S.A., DOAN Duc Bao*

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18:00 End of session - Fin de séance

## SESSION VII - SÉANCE VII

### Structural Mechanics II - Mécanique des Structures II

Friday, August 18, 2000 - Vendredi 18 août 2000

*Chairman: R. LAWThER :Président*

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08:30 *A novel snap through buckling behavior of axisymmetric shallow shells with possible application in transducer design*, Nuri Akkas and Ghassan Odeh  
08:45 *Comparison about weight, Costs, external dimension between reinforced concrete building design and steel-concrete composite building design*, NGUYEN Kinh Luan  
09:00 *Calcul automatique des tours et pylones par le logiciel "TOWER"*, CAO Minh Khang, DOAN Dinh Kien  
09:15 *Numerical technique to evaluate steel framed structures with pre-stressing cables and taking into account the behaviour of elastic nodal joint*, DOAN Tuyet Ngoc, NGUYEN Tram, VO Van Thao  
09:30 *Design of column-bracket bases on truss model in reinforced concrete structures*, NGUYEN Thanh Son

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09:45 General discussion - Discussion générale  
10:00 Break and poster session - Pause et séance de poster

*Chairman: DO Sanh :Président*

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10:15 *Computation of mass transmission by a forced mixed model (One dimensional problem)*, NGUYEN An Nien, TANG Duc Thang  
10:30 *Analyse d'une poutre de pont*, NGUYEN Binh Ha, DUONG Thi Minh Thu, NGUYEN Tram  
10:45 *Modelling the mechanical and hygrothermal behaviour of composite laminates using a high-order displacement formulation*, TRAN Ich Thinh, NGO Nhu Khoa  
11:00 *Prévision de forme des pièces céramiques après séchage et cuisson*, NGUYEN-DAI Quy, NGUYEN-DANG Hung  
11:15 *Stability behaviour of laminate composite plates subjected complex loading*, NGO Huong Nhu  
11:30 *Thickness effect and strength factor analysis of laminated glass units*, ASIK Mehmet Zülfü, ILKE Esen Tuzcu

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11:45 General discussion - Discussion générale  
12:00 End of session - Fin de séance

## SESSION VIII - SÉANCE VIII

### Mécanique des Matériaux - Material Mechanics

Friday, August 18, 2000 - Vendredi 18 août 2000

*Chairman: PHAM Khac Hung :Président*

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13:30 *A direct method of interpretation of gravity anomalies*, VO Van Thanh  
13:45 *Experimental analysis and modelling of the thermomechanical loading at the tool-chip interface during chip formation*, HAMANN J.C., MESLIN F.  
14:00 *Impact of plastic spin to the evolution of an anisotropic yield condition*, TRUONG Qui Hoang Phuong  
14:15 *Application du principe d'obligation minimale dans la résolution des problèmes de la mécanique des corps solides déformable*, HA Huy Cuong, NGUYEN Phuong Thanh  
14h30 *Mechanic-based durability study of coconut fiber reinforced rice husk ash-cement composite in flexure*, NGUYEN Van Chanh.  
14:45 *A new and effective method for optimal calculation of total transmission ratio of two step bevel - helical gearboxes*, VU ngoc Pi  
15:00 *A further application of the residual variable method*, AKKAS Nuri, ZAKOUT U., TUPHOLME G.E.

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15:15 General discussion - Discussion générale  
15:30 Break and poster session - Pause et séance de poster

## CLOTURE SESSION - SÉANCE DE CLOTURE

*Chairman: NGUYEN Van Diep :Président*

DO Sanh, NGO Huy Can, NGUYEN-Dang Hung,  
NGUYEN Hoa Thinh, NGUYEN Tac An, NGUYEN Thien Tong, NGUYEN Van Diep, NGUYEN Xuan Hung, PHAM Khac Hung, PHAM Hong Giang,  
QUACH Dinh Lien, François RONDAY, TRAN Ich Thinh, VALLIAPPAN S.

16:00: Cloture ceremony - Cérémonie de clôture

## POSTER SESSION - SÉANCE DE POSTER

### Structural Mechanics - Mécanique des Structures

1. *Description of the MARS small scale replica of a Fast Breeder Reactor and of the numerical models used to simulate a Hypothetical Core Disruptive Accident in the test-facility*, ROBBE M.F., LEPAREUX M., CARIOU Y., TREILLE E.
2. *Validation of the core disruptive accident constitutive law of the Castem-Plexus code on the Mara8 test*, ROBBE M.F., LEPAREUX M., CARIOU Y., TREILLE E.
3. *Qualification of the numerical simulation of hypothetical core disruptive Accident on the MARA10 test-facility*, ROBBE M.F., LEPAREUX M., CARIOU Y., TREILLE E.
4. *Research on the influence of bolts position in one row onto the interaction between  $M_{Rd}$  AND  $N_{Rd}$  for bolted steel joint by EUROCODE 3, SAMCEF and ASCON*, Luu NGUYEN Nam Hai, BUI Cong Thanh
5. *Studying contact characteristics of 3D toothed gear set where the surface of the driving tooth is determined by a two-parameter plane curve equation*, VU Nhu Phan Thien, BUI Xuan Liem
6. *Electro-mechanical coupling*, LE Dinh Tuan, HENROTTE, F., LEGROS, W.
7. *Kinematic design of gear-chain-bar mechanism*, VU Quy Dac, TRINH Quang Vinh, NGUYEN Xuan Lac.

### Mécanique des Fluides - Fluid Mechanics

8. *Studying the dispersion of spill hydrocarbons into the water column of ocean*, NGUYEN Anh Tieu
9. *Situation de l'environnement dans la région côtière de la province de Binh Thuan, Vietnam, et l'application du logiciel SAMCEF dans le calcul d'un ouvrage de protection d'une rivière.*, MAI Chi, TRUONG Ha Thanh
10. *Application of the stiffened plate method in optimising hydraulic structures*, NGUYEN Nhu Huynh, RIGO Philippe
11. *The fluid model for semi-conductor devices*, DANG Luong Mo

12. *Dynamics of a fin driven boat – Modelling and simulation*, TRAN Thu Ha, BIKOWSKI, S. WOLF, C.D., MAISSER, P.

### Computational Mechanics - Calcul numérique en Mécanique

13. *Three-dimensional slope stability analysis by the direct boundary element method*, DO-QUANG Khanh, Yansheng JIANG, NGUYEN-DANG Hung
14. *Estimation of limit load of slope using finite element method*, DONG Phuoc An
15. *Semi-analytical integration at interior point in 3D Elasticity*, Pascal HANS, JIANG Yansheng and NGUYEN-DANG Hung
16. *Limit load and deformation estimates by equilibrium back stress fields analysis*, YAN A.M., VU Duc Khoi, NGUYEN-DANG Hung
17. *Simulation, calculation of mattress of placed blocks for pitched slope protection by SAMCEF-MECANO*, NGUYEN Chien Thang, NGUYEN-DANG Hung, DOAN Duc Bao

### Mécanique des Matériaux - Material Mechanics

18. *Micromechanics of the interface in fiber reinforced cement materials*, NGUYEN Van Chanh, NGUYEN Ninh Thuy