

Nguyen-Dang Hung's Curriculum Vitae

(2005)

1. Personal coordinates:

Family Name: **NGUYEN-DANG**
First Name: **Hung**
Date of Birth: 01/1/1941
Nationality: Belgian and Vietnamese
Civil Status: Married, 4 children: Nguyen-Dang **Thi (Thierry)**, 1965), Nguyen-Dang **Kieu-Mai** (Delphine, 1973), Nguyen Dang **Kieu-Anh (Cécile)**, 1974) and Nguyen-Dang **Hung-Nguyen (Constant)**, 1994)

2. Education / Professional studies:

Institution: University of Liege
Degree/Diploma: Engineer Physicist – Aero-Space Engineering (1961-1966)
Degree/Diploma: Special Ph. D. (Agrégé de l'enseignement supérieur, 1984)

3. Membership of Professional Bodies:

Member of the "Association des Ingénieurs sortis de l'Université de Liège" (A.I.Lg.).
Member of Canadian Society for Mechanical Engineering.
Member of I.A.S.S. (International Association for Shell and Spatial Structures).
Member of the Reviewer Corps of the Applied Mechanics Reviews.
Member of the CEE-Working Group AG2 (Structural analysis of nuclear components).
Member of the Management Committee of COST Action 512 (MMSP)

4. Honours and awards:

Awarded from Belgian Royal Academy of Sciences, Literature and Arts (Louis BAES) (1984)
Decorated by the Belgian Government: Labour medal of first class (1998).
Decorated by the Belgian Government: Grand Officer of King Leopold II's orders (1999).
Chosen by VIF-EXPRESS (16/7/1999) to be among the immigrated Belgians who participate to the change of Belgium.
Awarded by the Foreign Ministry of Vietnam (2001).
Awarded by the Popular Committee of Ho Chi Minh City, Vietnam (2002).
Awarded by the Fatherland Front's Central Committee and the VIETNAMNET magazine: Glory of Vietnam (2004).
Decorated by the Belgian Government: Belgian Civic Cross of first class (2005).
Decorated by the Belgian Government: Grand Officer of Belgium Kingdom's orders (2005).

5. Present position within the organisation:

Member of the Director Comity of LTAS (Laboratory of Aero-Spatial Techniques: L.T.A.S).
Full Professor and Head of the Division LTAS-Fracture Mechanics of Solids (1991-2006),
University of Liege, Belgium.

6. Years with the organisation: 40 years

Research Engineer in the Department of Prof. B. FRAEIJIS DE VEUBEKE (1966-1968), (Laboratory of Aerospace Techniques (L.T.A.S.), University of LIEGE.

Assistant of Prof. Ch. MASSONNET (1968-1972), Department of Strength of Materials and Stability of Constructions, University of Liege, Belgium.

Assistant Professor in the same department (1972-1976).

Lecturer in the same Department (1978).

Associate Professor, University of Kinshasa, Zaire (1982-1986).

"Agrégé de Faculté" (1984-1991), Department of Mechanics of Materials, Stability of Constructions and Mechanics of Structures, Univ. of LIEGE.

Associate Professor, University of Liege, (chargé de cours, 1984-1991). Depart. of Strength of Materials and Stability of Constructions, University of Liege.

Professor and Head of the Section LTAS-Fracture Mechanics of Solids (1991-).

7. Key Qualifications:

7.1. Regular academic activities:

In charge of the following lectures:

"Compléments de mécanique des solides" (Advanced Solid Mechanics) (30 h + 30 h), CSMMC (option), EMAAE, 2MP.

Mécanique de la rupture", (Fracture Mechanics, 30 h.+ 30h), 3MP,3EMA.

"Mécanique des céramiques", (Mechanic of Ceramic, 15 h + 15h), 3 EM (option)

"Aspect thermodynamique des comportements des solides", (Thermodynamic Aspect of the Behaviour of Solids, 20 h + 20 h), 3 EM (option).

« Modélisation des solides par la méthode des éléments aux frontières », (Boundary Element Method in Solid Mechanics, 15 h + 15 h), 3 EM(option), 3 MP (option)

7.2. Research activities

7.2.1. Main topics :

Computational Solid Mechanics (finite element method, boundary element method, analytical method, mathematical programming techniques)

Non-linear Behaviour of Solids (plasticity, visco-plasticity, visco-elasticity, fatigue, damage)

Limit State Calculations (limit analysis, shakedown analysis, second order effects)

Advanced Solid Mechanics (fracture mechanic, contact of solids, mechanic of ceramic)

Optimisation of Structures (limit design, shakedown design)

Structural Analysis (beams, plates in extension and in bending, shells...)

Fracture Mechanics (linear, non-linear)

7.2.2. Main computing packages:

Author of the following computing packages:

ADELEF, « Analyse et Dimensionnement aux Etats Limites par la Méthode des Eléments Finis » - Analysis and Design in Limit State by Finite Element Method.

This package may perform:

- Elastic analysis: plane structures, rotational shells
- Limit analysis: plane structures, rotational shells
- Visco-plastic analysis: plane structures
- Shakedown analysis: plane structures, rotational plates and shells
- Contact analysis: plane structures
- Fracture analysis: plane structures

CEPAO, “Calcul Elastique-Plastique, Analyse et Optimisation» - Analysis and Optimisation of frame structures.

This package may perform:

Limit Analysis, Limit Design, Shakedown Analysis, Shakedown Design, Step-by-step Elastic-Plastic Analysis, Second Order Effects, Plastic Deformation Direct Calculations, Stability Control, Optimal Design of Reinforced Concrete Structures...

SAMCEF, “Système d'Analyse des Milieux Continus par la Méthode des Elements Finis”: Contribution to the computation in the domains of Fracture Mechanic and Delamination of Composites.

ELSA (1991-1993, Elbows Limit and Shakedown Analysis).

BECOME (1992-1994, Boundary Element Computational Method).

7.2.3. Main joint-researches with industries

C.M.I.- contract : "*Shakedown analysis of nuclear-reactor structures*", (3 years, 1983-1985)
S.E.P. - SAMTECH - contract : "*3-D fracture Mechanic by Finite Element Method*" (1 year, 1987-1988)
CARAT-DUCHATELET - contract: "*Design of a lengthened and reinforced Mercedes*" (1988).
AEROSPATIALE (Marignane) - SAMTECH - contract: "*Equivalent Domain Integral of VCE Method*" (1989).
CEE-MONS - contract: "*Numerical Analysis of Pressured Elbows*" (1989).
AEROSPATIALE (Marignane) - SAMTECH - contract: "*Collage Algorithm*", (1990).
AEROSPATIALE (Toulouse) - SAMTECH contract: "*Calculation of the integral J by the method of Equivalent Domain Integral in SAMCEF under nonlinear conditions*". (1991).
WALLOON REGION - Program Multimaterials: "*Development and assessment of the damage phenomenon of composites*" (1991-1995).
CEE-AG2 Contract N° ETNUT-0110-B (1993) (in collaboration with Faculty of Technologies of Mons, Belgium and the British society NNC) : "*Shakedown analysis of pipes and elbows*" (1993-1995).
CEE-AG2 Contract N° 0235 – UK, (major contactor : NNC) : "*Application of shakedown methods to piping*" (1994-1995).
FRAMATOME (Paris) - Contract "Analyse limite des coudes avec le programme ELSA": Limit analysis of elbows (1994-1995).

CEE- COST 512- EUROPEAN CONCERTED ACTION ON MODELLING IN MATERIAL SCIENCE AND PROCESSING (MMSP) MATERIALS. Convention N° 2760, sponsored by Walloon Region. Project: *"Modelling and simulation of damage growth and crack extension in metallic and composites structures subjected to fatigue with the presence of residual stresses"*, (1995-1999).

CEE, BRITE&ERAM : Project N° BE97-4547: LISA : « *FEM Based limit and shakedown analysis for design and integrity assessment in European industry* », (1988-2002).

WALLOON REGION - Project COMDY, Convention 114696, *"Delamination and damage of laminated composites under dynamic loadings"* (2002-2005).

7.3. General scientific and academic activities

Manager of scientific meetings:

-Manager and chairman of the Liège-Workshop on theme *"Applications of the Mathematical Programming Method to Structural Analysis and Design"*, Liège, June 1, 1982 (40 participants from European countries).

-Manager of the Milan-Liège day on theme *"Boundary Finite Element Method"*, Liège, January 26, 1988.

-Manager of the contact group meeting on the theme : *"Applications of the mathematical programming method in optimisation and analysis of structures"*, Liège, May 6, 1988.

-Manager and chairman of the *"One day Seminar on Boundary Element Method"*, Liège December 2 1991", organised by FNRS-BEM Contact Group with the participation of Ch. Massonnet, C.A. Brebia, P. Pereira, M. Géradin, P. Beckers, M. Hogge, J. Etienne ...

- Member of the international scientific meeting "Computational Methods in Contact Mechanics, organized by Wessex Institute of Technology, Southampton, UK, July 1993"

Promoter of European research groups:

-President of the FNRS contact group *"Boundary Element Method"*.

-Promoter and Secretary of the FNRS contact group *"Mathematical Programming Techniques and their Applications in Structural Analysis and Design"*.

- President of the FNRS contact group "Fracture and Damage Mechanics" (1992).

-Promoter and co-ordinator in Liège of the 3rd cycle Advanced Studies ERASMUS teaching program on *"Computational Mechanics of Solids and Structures"*, with the participation of 16 European Universities or High Schools.

-Administrator of the COMETT program named *"European Network for Computer Science Applied to Mechanics in Industry"* (CSAMI, F. Muller, Place Jussieu, 4, University of Paris IV, France).

-Promoter and co-ordinator in Liège of the TEMPUS program named *"Computer aide design of structures made of material with complex behaviour"* with the participation of 20 European

universities or High Schools including Warsaw, Cracow, Poznan, Budapest, Bratislava, Prague, Miskolc, Nis, Ljubljana...

- Chairman of working group IV (Simulation material properties), COST 512 of E.C. : Modelling of Properties, COST 512 MMSP (95-96-97).

8. International activities:

8.1. Member of cooperation agency

- Member of the Expert Committee (Aupelf&Uref, French Speaking Agency for Universities) for the revival of "Institute of Technology of *Phnom-Penh, Cambodia* (1992)

- Member of the Expert Committee (Aupelf&Uref, French Speaking Agency for Universities) for the creation of the Institute of Computer Sciences in Ha Noi (1992).

- Member of the consortium "Engineering Sciences" (Aupelf&Uref, French Speaking Agency for Universities) for the engineering training co-operation with Indochina (1994).

- Director of the Training Centre: "European Master in Mechanics of Constructions, EMMC", Ho Chi Minh University of Technology. (1995-****).

- Director of the "Modelling and Computation in Mechanics of Continuum, MCMC" Centre, Hanoi University of Technology (1998-****).

- Vice-President and Belgian Co-Coordinator of the Management Committee of the project "*Coopération en matière de formation de Doctorat en Sciences Appliquées en partenariat, Financement national du Vietnam*", (2003-2008).

8.2. Promoter and co-ordinator of North-South projects

-Promoter and Co-ordinator of a North-South Multilateral Project (Liège - Compiègne – Ho Chi Minh-City) sponsored by AUPELF: "*l'aide aux institutions universitaires vietnamiennes en vue de la formation de chercheurs dans le domaine du calcul des structures via l'ordinateurs et de la mécanique des solides*".

-Promoter and Co-ordinator of the project : "*Training of Vietnamese researchers in computational mechanics*" with the participation of the Technical Faculty of Mons, Polytechnic University, Institute of Mechanics, University of Ho Chi Minh city. This project is supported by French speaking community of Belgium via the CGRI.

-Promoter and Co-ordinator of the project (1995-2007): "*European Master in Mechanics of Constructions, EMMC*" with the participation of the Technical Faculty of Mons, Free University of Brussels, Catholic University of Louvain and University of Technology of Ho Chi Minh City (See Appendices concerning EMMC).

-Promoter and Co-ordinator of the project (1998-2006): "*Master in Computation and Modeling of Continuum, MCMC*" with the participation of the Technical Faculty of Mons,

Free University of Brussels, Catholic University of Louvain and Institute of Technology, Institute of Civil Engineering, National University and Institute of Mechanics of Hanoi

- Promoter and chairman of the organising committee of the "*International Colloquium in Mechanics of Solids, Fluids, Structures and Interactions*", Nha Trang, Vietnam, August 14 - 18, 2000.

- Promoter and co-ordinator of the project of transfer of know-how to National University of Ho Chi Minh City (University of Technology), in the domain computer aided engineering design by the creation of a complete training programme: "*European Master in Modeling of Continuum*", in collaboration with the Universities of Delf (Holland) and Montpellier II (France), 2001-2003.

- Promoter and co-ordinator of the project of transfer of know-how Institute of Technology of Hanoi, Vietnam in the domain computer aided engineering design by the creation of a complete training programme: "*European Master in Modeling and Design of Engineering Sciences, EMMD*", in collaboration with the Universities of Lulea (Sweden) and Marseille II (France), 2001-2003.

- Promoter and co-ordinator of the project « *Feasibility study on and design of an interlocking blocks for the protection against erosion in the Binh Thuan Province, ANTIERO* », 2001-2003. In collaboration with the Water Resource University of Hanoi, Vietnam, 2001-2006.

- Promoter and co-ordinator of the project "**Coopération en matière de formation de Doctorat en Sciences Appliquées en partenariat**", (Financement national du Vietnam), in collaboration with the University of Civil Engineering, Hanoi, 2003-2008.

8.3. Lectures and seminars

-During the period of August 3 to September 23, 1977.

Invited by the Committee of Sciences and Techniques of Vietnam and with aids of the CECODEL the following courses are given by Nguyen Dang Hung in Hanoi (Hydraulic institute): - *Implementations of the Finite Element Method in Structural calculations (30 h + 15 h)*.

-During the period of May from 2 to 21.1991 NGUYEN DANG HUNG is invited by the Polytechnic University and the University of Ho Chi Minh City (under contract with French speaking University Association (AUPELF) to give a cycle of lectures on the topic: "*Advanced Computational Solid Mechanics*".

-23rd September 1977, Hydraulic Institute of Hanoi (invited by State Committee of Sciences and Technologies of Vietnam). The topic: *Limit analysis of shells of revolution by F.E.M. and mathematical programming*.-2nd February 1989 at National Institute of Polytechnic Engineering, Ho Chi Minh City, Vietnam. Topic: "*The Development of Computational Mechanics in the University of Liege*".

-15th February 1990 at National Institute of Polytechnic Engineering, Ho Chi Minh City, Vietnam. Topic: *"The Variational Principles and the Finite Element Method"*.

- During the period of July 15 to August 15.1991 NGUYEN DANG HUNG are invited by the two above Vietnamese universities to continue a cycle of lectures on the topic: *"Introduction to finite element method"*.

- 11th February 1992 at National Centre for Scientific Research of Vietnam, Institute of Mechanics (N°224 Doi Can, Hanoi, Profs NGUYEN VAN DAO & NGUYEN VAN DIEP). Topic: *"On the computational research in the domain of fracture mechanics"*.

- 17th February 1992 at Institute of Mechanics of Ho Chi Minh City, Vietnam (Prof. NGUYEN XUAN HUNG).Topic: *"A synthetic vision of fracture mechanics"*

- 18th February 1992 at Institute of Mechanics of Ho Chi Minh-City, Vietnam (Prof. NGUYEN XUAN HUNG). Topic: *"The use of linear programming method in CEPAO, a compact package for plastic analysis and design of frame structures"*.

- During the period 2 to 23 January 1993, NGUYEN DANG HUNG is invited by the Institute of Mechanics and University and University of Technology of Ho Chi Minh City, Vietnam, to give lessons on the topic : *"Analyse et dimensionnement limite des structures dans les conditions de chargements complexes"*.

- 25th June 1993, at Technical University of Budapest, Department of Metallic Structures (Prof. Ivanyi Miklos, Final meeting of TEMPUS project).Topic (in French): *"Dimensionnement des structures à barres dans les conditions de chargement fixes et variables"*.

- 19th September 1994, at University of Aix-Marseille II, Department UNIMECA, «Technopôle de Château-Gombert» (Prof. Daniel Dufresne).Topic (in French) *"Les nouveaux développements au service LTAS-Mécanique de la rupture des solides concernant les recherches sur les méthodes numériques en mécanique des solides"*

- 15th March 1995, AG2- Meeting (European Commission, Environment, nuclear safety and civil protection) Brussels. Topic: *"Comparison and testing of numerical techniques for shakedown analysis of nuclear plant components"*, Research progress of the project ETNUT-0110-B (1993).

- 14th February 1996, « Laboratoire de Mécanique et Acoustique », CNRS, Marseille, (Prof. P. Suquet and Dr. P. Chabrand).Topic (in French): *" Analyse limite des tuyaux et des coudes par la méthode des éléments finis et la programmation mathématique."*

- 15th May 1996, at « AEROSPATIALE Avions building (Toulouse-Blagnac), Department of Structures (B. Laschaud). Topic (in French): *"Les récents progrès de recherche sur la modélisation des composites au LTAS, Liège"*.

- 31st May 1996, at FRAMATOME building, « Paris-la-Défense, Département Bloc Réacteur et Boucles Primaires » (M. Ph. Gilles).Topic (in French): *" Analyse limite des coudes utiles sans les réacteurs nucléaires"*.

- 23rd February 2000, « Midterm meeting of Brite&Eram LISA project”, Brussels (Profs. M. Staat and E.F. Hicken). Topic: “Developments of algorithms for shakedown analysis”
- 17th may 2000, « Laboratoire de Génie Civil et Mécanique, LGCM, Université de Montpellier II », (Prof. Ch. Licht). Topic (in French): "*Analyse limite et calcul d'adaptation plastique des coudes et des coques.*"
- 19th November 2000, at University of New South of Wales, Department of Civil Engineering, (Prof. Francis Tin-Loi). Topic: “About equilibrium finite elements”.
- 7th December 2000, at Institute of Architecture of Hanoi (Prof. Nguyen Tram). Topic: "*Introduction to fracture mechanics*".
- 10th January 2001, at University of Liège, Journey of CEIM (Prof. René Maquoi). Topic (in French): « *Le Service LTAS-Mécanique de la Rupture et les recherches dans le domaine de l'analyse limite et du calcul d'adaptation plastique des structures métalliques* »
- August 2002, at University of Water Resource of Hanoi (Prof. Nguyen Van Mao). Topic: "*Fracture mechanics and applications on dam constructions*".
- November 2002, at University of Liège (Chaired by Prof. Willy Legros, Rector of University of Liège and Prof. Pham Sy Tien, Head of the Department of Postgraduate Training, Ministry of Education and Training of Vietnam). Topic: "*Bilan de dix ans la coopération Université de Liège - Universités Vietnamiennes dans la formation doctorale*".
- June 2004, Tuesday 1st, at "Stakeholder meeting" organised by EC Delegation in Hanoi.: Topic : "*The programme EU-EMMD and the Inter-University cooperation with a consortium of 5 Universities of Technology in Hanoi*"
- June 2004, Thursday 3rd, at "Stakeholder meeting" organised by EC Delegation in Ho Chi Minh City : Topic : "*The programme EU-EMMC and the Inter-University cooperation with the Ho Chi Minh University of Technology*".
- Visiting lecture from 20/12/2003 to 15/2/2004, Ho Chi Minh University of Technology and Hanoi University of Technology, Vietnam.
- Visiting lecture from 28/12/2004 to 21/2/2005, Ho Chi Minh University of Technology and Hanoi University of Technology, Vietnam.
- March 2005, Friday 11 at "NidaGroup and Henri Tudor Research Centre” organise by Dr Salim Belouettar, CRP Henri Tudor, and Luxembourg: Topic: "*Direct and indirect metis finite element method for edge delamination in laminates*".

9. Professional Experience Record in Other Countries:

- During academic years, (1982-1986) on contracts with A.G.C.D. (Belgian Ministry of Co-operation), Nguyen Dang Hung is a permanent professor at Polytechnic Faculty, University of Kinshasa Zaire. He gives the following courses:

Applied Static (30 h + 30 h, First year of Engineering study)

Strength of material and elasticity (45 h + 45 h, 2nd year)

Stability (45 h + 45 h, 3rd year)

Metallic constructions (60 h + 60 h, 4th year)

Applied Mechanics (30 h + 30 h, 4th year)

Advanced studies of stability (30 h + 30 h, 5th year)

- During the period from 15th to 19th July 1985, Nguyen Dang Hung is invited by the International Centre of Mechanical Sciences, Udine, Italy to give four lectures in the topic of *"Applications of mathematical Programming Technique to Plastic analysis and Design"*.

- During the period from 26th October to 26 January, Nguyen Dang Hung is invited by I.A.G.C.D. (Belgian Ministry of Co-operation) to give the following lectures in Polytechnic Faculty, University of Kinshasa, Congo:

Elasticity (15 h + 15 h)

Stability (45 h + 45 h)

Applied Mechanics (30 h + 30 h)

Advanced Studies of Stability (30 h + 30 h)

- During the period from 15th to 17th November 1988, NGUYEN DANG HUNG is invited by the Society AMTECH Liège and "Aerospatiale-Division Hélicoptères" (Marignane, France) to give a course on the topic *"Fracture Mechanics and the Finite Element Approaches"*.

- During the period from 17th to 20th January 1989, NGUYEN DANG HUNG is invited by the Society SAMTECH (Liège) and Aerospatiale, Service de calcul des structures, (Toulouse, France) to give a course about *"Finite Element Method in Fracture Mechanics"*.

- During the period from 19th to 21st June, 1990 NGUYEN DANG HUNG is invited by the society SAMTECH (Liège) to give a course on the topic *"The SAMCEF Package and the Computational Fracture Mechanics"*.

- During the period from October from 8 to 12.1991 NGUYEN DANG HUNG is invited by the Technical University of POZNAN, Institute of technological constructions, Poland to give a cycle of lecture on the topic: *"Limit analysis and limit design of frame structures"*.

- During the period of October from 14 to 18.1991 NGUYEN DANG HUNG is invited by the Technical University of KRAKOW, Institute of Civil Engineering, Poland to give a cycle of lecture on the topic: *"Computation of limit and shakedown design of frame structures"*.

- During the period from May 30 to June 4. 1992, NGUYEN DANG HUNG is invited by the Technical University of Budapest, Hungary, Department for Steel Structures to give a cycle of lecture on the topic: *"Direct plastic limit analysis and limit design of frame structures under proportional and variable loadings"*.

- During the period from 2nd to 23rd January 1993, he is invited by Institute of Applied Mechanics, and Institute of Technology of Ho Chi Minh city, Vietnam, to give a un cycle lecture on (in Vietnamese)

"Limit Analysis and design of structures under complex loadings".

- During the period from 17 to 21 June 1993, NGUYEN DANG HUNG is invited by the "Istituto Superior Tecnico, Departamento de Engenharia Civil" (Prof. Teixeira de Freitas), Portugal, to give lessons on the topic: *"The monotonous convergence of the pure and metis finite element models"*

- During the period from 17th to 21st June 1993, he is invited by "Istituto Superior Tecnico, Departamento de Engenharia Civil" (Prof. Teixeira de Freitas), Portugal, to give two lessons on the topic: *"The monotony of the convergence of the pure and "metis" finite element "* and *"On the double singularity of a "metis" finite element useful in crack problems"*.

- During the period from 24th to 28th January 1994, he is invited Institute of Applied Mechanics, and Institute of Technology of Ho Chi Minh city, Vietnam, to give a un cycle lecture on *"Advanced mechanics of solids"*.

- During the period from 11th to 15th July 1994, he is invited by Institute of Applied Mechanics, and Institute of Technology of Ho Chi Minh city, Vietnam, to give a un cycle lecture on *"Introduction to boundary elements"*.

- During the period from 8th February to 8th March the from the first to 30th July 1996, he is invited by University of Aix-Marseille II, Department UNIMECA (Prof. D. Dufresne) to give a cycle of lectures on (in French):

"La fissuration et le calcul de ténacité par les méthodes numériques dans le SAMCEF"

- During the period from 21st to 22nd October 1996, he is invited by Prof. Tran Ich Thinh, Institute of Technology of Hanoi to give two seminars on: *«Introduction to fracture mechanics»* and *« The finite element method and the fracture mechanics »*.

- During the period from 24th to 25th October 1996, he is invited by Prof. Phan Ky Phung, Rector of the University of Da Nang, Vietnam to give two seminars on: *«Introduction to fracture mechanics»* and *« The finite element method and the fracture mechanics »*.

- During the period of 24th February to First March 1997, he is invited by University of Aix-Marseille II, Department UNIMECA (Prof. D. Dufresne) to give a cycle of lectures on (in French): *"Introduction de la méthode des éléments aux frontières"*

- From September 1995 to December 2000, he is invited by Institute of Technology of Ho Chi Minh city under the auspice of the EMMC programme to give ten lectures on the topics (in Vietnamese):

«Modeling in solids and structures under non linear conditions », « Fracture mechanics», « Boundary element method »

- During the period from 10th April to 16th June 2000, he is invited by University Montpellier II, Laboratory LGCM, and (Profs René Motro et Christian Licht) to give cycle of lectures on (in French): *"Comportements non linéaires des solides"*

- During the period of 9th to 14th October 2000, he is invited by University of New South of Wales (Prof. Francis Tin-Loi) to give a seminar on the theme: "*On the equilibrium elements and their role in structural mechanics*".

10. Publications:

Books and courses: 22, Papers and scientific reports: 186, Various general papers or travel reports, Poem collections: 6 (in Vietnamese)

10.1. Books and Courses

1. "*Non-Linear Behaviour of Materials*", (in French) 140 pages, Department of Mechanics of Materials, Stability of Constructions and Mechanics of Structures, University of Liège, (1980).

2. "*Applied Static*" (in French) - Edition PUZ, Kinshasa, Zaire (1983), 220 pages

3. "*Elements of Elasticity*" (in French) - Edition PUZ, Kinshasa, Zaire (1983), 120 pages

4. "*Strength of Materials*" (in French) Tome I, Department of Constructions, Polytechnic Faculty, 170 pages, 1983.

5. "*Strength of Materials*" (in French) Tome II, Department of Constructions, Polytechnic Faculty, 185 pages, 1983;

6. *Applications of the mathematical programming method to structural analysis and design*, Engineering Structures, Butterworth, vol. 6, n° 1, January 1984.

7. "*On the Plasticity theory and the plastic limit calculations of Structures*" (in French), Publication n° 98, Faculty of Applied Sciences, University of Liège (1985), 480 pages.

8. "*A course of Elasticity*" (in French), Division of "Numerical Modeling in Mechanics and Structures", Department of Mechanics, Technology University of Compiègne, France (1986), 204 pages.

9. "*Complements of Mechanics of Solids: plasticity, viscoelasticity, Fracture Mechanics*" (in French), Lecture edited by the « Laboratoire de Mécanique des Matériaux et de Stabilité des Constructions » University of Liège, (1989), 340 pages.

10. "*Fracture Mechanics: Numerical approaches*" (in French), edited by SAMTECH (1989), 250 pages.

11. "*Introduction to Boundary Element Method*". A course in French, LTAS_fracture Mechanics, 1990, 120 pages.

12. "*A course of Fracture Mechanics*" (in French), edited by LTAS-Mécanique de la Rupture des Solides, University of Liège, 1990, 350 pages.

13. "*Variational and Computational Plastic Limit and Shakedown Analysis*" Theory and exercises, to be published by BIRKHAUSER VERLAG, AG, Basel, 500 pages. (To be appeared).
14. "*Introduction to Solid Mechanics*", In French and in Vietnamese, edited by Polytechnic University of Ho Chi Minh City, Vietnam, May 1991, 250 pages.
15. "*Advanced fracture mechanics*", syllabus in French used during stay I in University of Marseille II (UNIMECA), 1996, 26 pages
16. "*Fracture mechanics and finite element method*", syllabus in French used during stay I in University of Marseille II (UNIMECA), 1996, 30 pages.
17. "*Introduction to the boundary element method*", syllabus in French used during stay I in University of Marseille II (UNIMECA), 1996, 60 pages.
18. "*Non linear mechanics of solids*", syllabus in French used during stay in University of Montpellier II, 2000, 250 pages.
19. "*Dictionnaire de l'architecture et du bâtiment, français-Vietnamien*". (In collaboration with Doan Nhu Kim and Doan Dinh Kien), book prepared under the sponsoring of "l'Agence Universitaire de la Francophonie" Van Hoa publisher, 1999.
20. "*Proceedings of the International colloquium in Mechanics of solids, fluids, structures and interaction*" August 14-18 Nha Trang, edited by LTAS-University de Liège (co-editors: F. Ronday and Nguyen Van Diep), 886 pages, 2000.
21. "*Limit Analysis of Defects*", (In collaboration with Staat, M.; Heitzer, M.; Yan, A.M.; Khoi, V.D.; Voldoire, F. and Lahousse, ZENTRALINSTITUT FÜR ANGEWANDTE MATHEMATIK (ZAM), Berichte des Forschungszentrums Jülich 3746, Jül-3746, (2000).
22. "*Plasticity, viscoelasticity, thermoelasticity*" (in French and in collaboration with Ch. MASSONNET), Lecture edited by the "Laboratoire de Mécanique des Matériaux et de Stabilité des Constructions", (1981), 340 pages.

10.2. Journal papers (chronological order)

1. *Displacement and equilibrium methods in matrix analysis of trapezoidal structures*. "Collection des Publications de la Faculté des Sciences Appliquées", n° 21, 1970.
2. *Duality in the analysis of shells by the finite element method*. International Journal of Solids and Structures, March 1971, vol. 7, issue 3 pp. 281-299.
3. *Limit analysis of framed structures*. (in French), "Construction métallique", magazine edited by CTICM, Nr 4, 1972.
4. *Limit analysis of rigid-plastic structure by a quasi-direct method* (in French) presented at "Séminaire de Plasticité et Viscoélasticité, Ecole Polytechnique de Paris", 27-29 September

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4. *Foundation of the finite element method*. Report Nr 42 in French. Laboratory of Strength of Materials and Stability of Constructions, University of Liège, 1971.

5. *A new interpretation of KOLOSOV-MUSKHELISHVILI functions for plane problems in elasticity. Displacement formulation*. Report Nr 12, Laboratory of Strength of Materials and Stability of Constructions University of Liège, 1972. Presented at French Congress of Mechanics, 17-20 September 1973, Poitiers, France.

6. *Mechanics of the behaviour of the non-elastic material*. Post-graduate course (in French) “Laboratoire de Mécanique des Matériaux et de stabilité des Constructions, Liège”, 140 p. (1980).

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12. *On the Simplex Algorithm in CEPAO-82*. Report Nr 133. Laboratoire de Mécanique des Matériaux et Statique des Constructions, Université de Liège, March 1983.

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14. *On the Plasticity and the Calculation of Limit States by F.E.M.* (in French). Thesis of the degree of "Agrégation" or Special Ph. D. – "Faculté des Sciences Appliquées, Université de Liège, Collection des Publications" Nr 98, 1985.
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2. Report concerning the activities of the university co-operation sponsored by agency FICU, AUPELF&UREF (1991).
3. The overseas Vietnamese's and the scientific co-operation with Vietnam (in Vietnamese appeared in DOAN KET). N° 418, France, November 1989.
4. Comments on the scientific co-operation with Vietnam (in Vietnamese), "TUOI TRE CHU NHAT NEWS PAPER" Ho Chi Minh City, February 25, 1990.
5. On the experiences of the university co-operation with Vietnam. Workshop on Engineering Education in Developing Countries, Proceedings of the Conference of European Schools for Advanced Engineering Education and Research (CESAER), Liege 29-30 March, 1993.
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8. EMMC et MCMC, Master training programmes located in Vietnam. Séminaire Europe organised by « Agence Universitaire de la Francophonie », University of Evry Val d'Essonne, 25-27 March 1999.
9. Final activity report of the programme PIP-EMMC, 95-99. LTAS-Mécanique de la Rupture, November 1999.
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2. *The shadow of times* (in Vietnamese), Collection of Poems in Vietnamese, edited by Thanh-Long, Brussels 1973.
3. *The beaten track* (in Vietnamese), Collection of poems in Vietnamese edited by "TRE publishing", Ho Chi Minh City, 1997.
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