

Personal data:

Philippe G. CIARLET

Born : 1938

Citizenship : French

Personal address :

38 rue Louis BLanc

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France

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Homepage: <<http://www.cityu.edu.hk/ma/about-us/professors/philippe-g-ciarlet>>

Education :

1959-1961 : École Polytechnique, Paris

1962-1964 : École Nationale des Ponts et Chaussées, Paris

1964-1966 : Case Institute of Technology, Cleveland, U.S.A.

1966 : Ph.D., thesis advisor : Richard S. VARGA

1971 : Doctorat d'État, University of Paris, thesis advisor : Jacques-Louis LIONS

Main Positions :

1966-1973 : Head of the Department of Mathematics, Laboratoire Central des Ponts et Chaussées, Paris

1974-2002 : Professor, Université Pierre et Marie Curie, Paris

2002- : Emeritus Professor, Université Pierre et Marie Curie (now Sorbonne Université)

2002-2011 : Chair Professor, City University of Hong Kong

2011-2022 : University Distinguished Professor, City University of Hong Kong

2015- : Senior Fellow of the Hong Kong Institute for Advanced Study

2020- : Gastprofessor, Institut für Mathematik, Universität Zürich

2022- : Emeritus Professor, City University of Hong Kong

Other Positions :

1967-1985 : Maître de Conférences at l'École Polytechnique (part-time appointment)

1974-1994 : Scientific consultant at the I.N.R.I.A.

1978-1987 : Professor at the École Normale Supérieure, Paris (half-time appointment)

1981-1992 : Head, Laboratoire d'Analyse Numérique, Université Pierre et Marie Curie

DISTINCTIONS

National Order of the Legion of Honor of France :
Knight : 07 April 1999
Officer : 05 June 2012

Member or Foreign Member of the following Academies:

Academia Europaea, 1989
French Academy of Sciences, 1991
Romanian Academy, 1996
French Academy of Technologies, 2000
National Academy of Sciences of India, 2001
European Academy of Sciences, 2003
The World Academy of Sciences (TWAS), 2007
Chinese Academy of Sciences, 2009
Hong Kong Academy of Sciences, 2015

Poncelet Prize, French Academy of Sciences, 1981
Grand Prize (Prix Jaffé), French Academy of Sciences, 1989
Alexander von Humboldt Research Award, 1996
Gold Medal, University of Santiago de Compostela, 1997
Shanghai Prize for International Cooperation in Science and Technology, 2006
Fellow of the Society for Industrial and Applied Mathematics (SIAM), 2009
Fellow of the Hong Kong Institution of Science, 2011
Fellow of the American Mathematical Society (AMS), 2013
Senior Fellow of the Hong Kong Institute for Advanced Study, 2015

“Honorary Professor”, Fudan University, Shanghai, 1994
“Senior Member” , Institut Universitaire de France, 1996-2002
“Honorary Professor”, “Transilvania” University, Braşov, 1998
Doctor “Honoris Causa”, “Ovidius” University, Constanţa, 1999
Professor Emeritus, Université Pierre et Marie Curie, 2002
Doctor “Honoris Causa”, University of Bucharest, 2005
“Honorary Professor”, Xi'an Jiaotong University, 2006
Doctor “Honoris Causa”, University of Craiova, 2007
Doctor “Honoris Causa”, University “Politehnica” of Bucharest, 2007
Doctor “Honoris Causa”, University “Alexandru Ioan Cuza” of Iaşi, 2012
“Honorary Professor”, South China University of Technology, 2019
“Honorary Professor”, Chongqing University, 2019
“Gastprofessor”, Institute of Mathematics, Universität Zürich, 2020
“Honorary Distinguished University Professor”, Beijing Normal University - Hong Kong Baptist University United International College (UIC), Zhuhai, 2021
“Honorary Professor”, Guangxi University, 2021
“Honorary Professor”, Jinan University, 2021
Professor Emeritus, City University of Hong Kong, 2022

Listed in the top 0.19% of the most highly cited scientists without self-citations (152 out of 80,129) in the field “General Mathematics” (2022 report by Stanford University)

Dedicated events and publications:

- International Conference on Partial Differential Equations and Applications-in Honour of Professor Philippe G. Ciarlet's 70th Birthday, 05-08 December 2008, City University of Hong Kong
Special Issue (Vol. 53, Nos 5 and 6, 2008) of *Revue Roumaine de Mathématiques Pures et Appliquées*:
“Collection of papers in honour of Philippe G. Ciarlet on his 70th birthday” (Editor: M. Iosifescu).
Special Issue (Vol. 8, No.1, 2009) of *Communications on Pure and Applied Analysis*: “Dedicated to
Philippe G. Ciarlet on the occasion of his 70th birthday” (Editors: H. Le Dret, V. Rădulescu, R.S.C.
Wong).
- International Conference on Contemporary Applied Mathematics - in Honor of Professor Philippe G.
Ciarlet on the occasion of his 80th birthday”, 07-11 May 2018, Fudan University, Shanghai.
Special Issue (Vol. 39, Nos 2 and 3, 2018) of *Chinese Annals of Mathematics - Series B*: “Dedicated to
Professor Philippe G. Ciarlet on the occasion of his 80th birthday” (Editors: H. Le Dret, A. Raoult).
Special Issue (Vol. 63, No. 4, 2018) of *Revue Roumaine de Mathématiques Pures of Appliquées*: “Dedi-
cated to Professor Philippe G. Ciarlet on the occasion of his 80th birthday” (Editors : V. Brînzănescu,
G. Dincă).
- Book : *Measure and Integration*, by S. Kesavan, Hindustan Book Agency, 2019, Dedicated to Professor
Philippe G. Ciarlet.
- Institute of Advanced Study Conference Celebrating France-Hong Kong Scientific Cooperation - in Honor
of Professor Philippe G. Ciarlet's 80th Birthday, 12 November 2018, City University of Hong Kong
(Speakers: John BALL, Serge HAROCHE, Jean-Marie LEHN, Tatsien LI, Pierre-Louis LIONS, Jean
SALENÇON).
- Special Issue (Vol. 35, No. 1, 2019) of *Acta Mathematicae Applicatae Sinica, English Series*, “dedicated
to Professor Philippe G. Ciarlet on the occasion of his eightieth birthday” (Editors: C. Mardare, T.
Yang).

BOOKS

- [1] CIARLET, P.G., *Lectures on the Finite Element Method*, Tata Institute of Fundamental Research, Lectures on Mathematics and Physics, Vol. 49, Bombay 1975.
- [2] CIARLET, P.G., *Numerical Analysis of the Finite Element Method*, Series “Séminaire de Mathématiques Supérieures”, Vol. 59, Université de Montréal, Montréal 1976.
Chinese translation : 1977 (Shanghai Scientific and Technical Press).
- [3] CIARLET, P.G., *The Finite Element Method for Elliptic Problems*, Series “Studies in Mathematics and its Applications”, North-Holland, Amsterdam, 1978.
Russian translation : 1980 (“Mir”, Moscow).
Reprinted as “*SIAM Classics in Applied Mathematics*”, No. 40, SIAM, Philadelphia, 2002.
- [4] CIARLET, P.G. ; RABIER, P., *Les Équations de von Kármán*, Lecture Notes in Mathematics, Vol. 826, Springer-Verlag, Berlin, 1980.
Russian translation : 1983 (“Mir”, Moscow).
- [5] CIARLET, P.G., *Introduction à l’Analyse Numérique Matricielle et à l’Optimisation*, Masson, Paris, 1982.
English translation: 1989 (Cambridge University Press, Cambridge), under the title: *Introduction to Numerical Linear Algebra and Optimisation*.
Italian translation : 1989 (Masson Italia, Milano).
Chinese translation : 1990 (Higher Education Press, Beijing).
Galician translation : 1999 (Servicio de Publicacións da Universidade de Santiago de Compostela).
- [6] CIARLET, P.G. ; THOMAS, J.-M., *Exercices d’Analyse Numérique Matricielle et d’Optimisation*, Masson, Paris, 1982.
Second Edition: CIARLET, P. G.; MIARA, B.; THOMAS, J.-M., Masson, Paris, 1986.
English translation : 1989 (Cambridge University Press, Cambridge).
Italian translation : 1989 (Masson Italia, Milano).
Chinese translation : 1990 (Higher Education Press, Beijing).
- [7] CIARLET, P.G., *Lectures on Three-Dimensional Elasticity*, Tata Institute of Fundamental Research Lectures on Mathematics and Physics, Vol. 71, Springer-Verlag, Berlin, 1983.
- [8] CIARLET, P.G., *Élasticité Tridimensionnelle*, Masson, Paris, 1985.
- [9] CIARLET, P.G., *Mathematical Elasticity, Vol. I : Three-Dimensional Elasticity*, Series “Studies in Mathematics and its Applications”, North-Holland, Amsterdam, 1988.
Russian translation : 1992 (“Mir”, Moscow).
Chinese translation : 1992 (Science Press, Beijing).
Reprinted as “*SIAM Classics in Applied Mathematics*”, No. 84, SIAM, Philadelphia, 2021.
- [10] CIARLET, P.G., *Plates and Junctions in Elastic Multi-Structures : An Asymptotic Analysis*, Masson, Paris, and Springer-Verlag, Heidelberg, 1990.
- [11] CIARLET, P.G., *Basic error estimates for elliptic problems, in Handbook of Numerical Analysis* (P.G. CIARLET & J.-L.LIONS, Editors), Vol. II : Finite Element Methods (Part I), pp.17-351, North-Holland, Amsterdam, 1991.
- [12] CIARLET, P.G., *Mathematical Elasticity, Vol. II : Theory of Plates*, Series “Studies in Mathematics and its Applications”, North-Holland, Amsterdam, 1997.
Romanian translation : 2002 (Editura Academiei Române, Bucuresti)
Reprinted as “*SIAM Classics in Applied Mathematics*”, No. 85, SIAM, Philadelphia, 2021.
- [13] CIARLET, P.G., *Introduction to Linear Shell Theory*, Gauthier-Villars & Elsevier, Paris, 1998.
- [14] CIARLET, P.G., *Mathematical Elasticity, Vol. III : Theory of Shells*, Series “Studies in Mathematics and its Applications”, North-Holland, Amsterdam, 2000.
Reprinted as “*SIAM Classics in Applied Mathematics*”, No. 86, SIAM, Philadelphia, 2021.
- [15] CIARLET, P.G., *An Introduction to Differential Geometry, with Applications to Elasticity*, Springer, Dordrecht, 2005.
- [16] CIARLET, P.G., *Linear and Nonlinear Functional Analysis with Applications*, SIAM, Philadelphia, 2013.
Indian edition: 2017 (University Press, Hyderabad)
Chinese translation: 2017 (Higher Education Press, Shanghai).

- [17] CIARLET, P.G., *Locally Convex Spaces and Harmonic Analysis: An Introduction*, SIAM, Philadelphia, 2021.

SELECTED INVITED LECTURES (Since 1975)

- Tata Institute, Bangalore, 06 January - 07 February 1975 (*series of lectures*).
- Séminaire de Mathématiques Supérieures, Université de Montréal, 16 June - 11 July 1975 (*series of lectures*).
- Colloque National Annuel d'Analyse Numérique 1976, Port-Bail, 24-29 May 1976 (*plenary lecture*).
- Colloque National Annuel d'Analyse Numérique, Aussois, 25-29 May 1981 (*plenary lecture*).
- Tata Institute of Fundamental Research, Bangalore, 28 January - 17 February 1983 (*series of lectures*).
- Annual Meeting, Gesellschaft für Angewandte Mathematik und Mechanik, Regensburg, 16-19 April 1984 (*inaugural lecture*).
- Colloque National Annuel d'Analyse Numérique, Bombannes, 21-25 May 1984 (*plenary lecture*).
- Summer School C.E.A. - I.N.R.I.A. - E.D.F. "Nonlinear Mechanics", Bréau-sans-Nappe, 25 June - 06 July 1984 (*series of lectures*).
- "Journées Fermat", Université Paul Sabatier, Toulouse, 06-10 May 1985 (*plenary lecture*).
- International Symposium on Numerical Analysis, Universidad Politecnica de Madrid, 17-19 September 1985 (*plenary lecture*).
- Symposium on "Unilateral Problems in Mechanics", Università di Roma 2, 06-08 April 1987 (*plenary lecture*).
- ICIAM 87, First International Conference on Industrial and Applied Mathematics, Paris, 29 June-03 July 1987 (*invited one-hour lecture*).
- "Blumberg Professor", University of Texas at Austin, 05-09 October 1987.
- Simposio Internazionale "2d-approximations of 3-dimensional problems in elasticity", Accademia Nazionale dei Lincei, Rome, 20-22 October 1987 (*plenary lecture*).
- "Timoshenko Visiting Professor", Stanford University, 11 June - 09 July 1988.
- Conference in the Honor of R.S. Varga, Kent State University, 30 March-01 April 1989 (*plenary lecture*).
- Deutsche Mathematiker-Vereinigung Seminar : "Elastizitätstheorie", Kloster-Neresheim, 24-30 September 1989 (*series of lectures*).
- Applied Mathematics Conference in the Honor of L. Collatz' 80th birthday, Hamburg, 06-07 July 1990 (*plenary lecture*).
- Deutsche Mathematiker-Vereinigung Seminar : "Elastizitätstheorie II", Kloster-Neresheim, 25 February - 01 March 1991 (*series of lectures*).
- "Nachdiplomvorlesung", E.T.H. Zürich, 07 May - 12 July 1991.
- "Festkolloquium aus Anlass des 60. Geburtstages von Prof. Dr. Klaus Kirchgässner, University of Stuttgart, 18 January 1992 (*plenary lecture*).
- Colloque Franco-Israélien, École Normale Supérieure, Paris, 09-12 June 1992 (*plenary lecture*).
- Symposium "Théorie de l'Approximation et Approximation des Surfaces", dédié à Rémi Arcangeli, University of Pau, 18 June 1992 (*plenary lecture*).
- Fifth French-Spanish Fall School: "Numerical Simulation in Physics and Mechanics", Castello de la Plana, 28 September - 2 October 1992 (*series of lectures*).
- Spring School : "Shells: Modeling, Mathematical Analysis, Numerical Simulation", E.S.I.E.E., Noisy-le-Grand, March 1994 (*series of lectures*).
- International Congress of Mathematicians, Zürich, 03-11 August 1994 (*invited 45 mn lecture*).
- Colloque dédié à la mémoire de Pierre Grisvard, Institut Henri Poincaré, Paris 24-26 November 1994 (*plenary lecture*).
- IV Congreso de Matematica Aplicada, Vic, 18-22 September 1995 (*inaugural lecture*).
- Huitièmes Entretiens du Centre Jacques Cartier "Élasticité, Viscoélasticité et Contrôle Optimal", Lyon, 06-08 December 1995 (*plenary lecture*).
- "1995-96 Sackler Institute Lectures", University of Tel Aviv, 14-18 April 1996.
- Troisième Conférence Internationale "Curves and Surfaces", Chamonix, 27 June - 03 July 1996 (*plenary lecture*).
- Troisième Colloque Franco-Roumain "Analyse et Modélisation", Cluj-Napoca, 23-27 September 1996 (*inaugural lecture*).
- "Epson Foundation Colloquium", Hong Kong Mathematical Society, 07 November 1996.
- University of Stuttgart (*Alexander von Humboldt Foundation Research Award Lectures*), 15 April - 03 July 1997.

“International Conference on Shells”, University of Santiago de Compostela, 14-18 July 1997 (*inaugural lecture*).

University of Stuttgart (*Alexander von Humboldt Foundation Research Award Lectures*), 21 April - 16 July 1998.

Colloque National Annuel d’Analyse Numérique, Arles, 18-22 May 1998 (*plenary lecture*).

Journées “Elie Cartan”, Université Henri Poincaré, Nancy, 18-19 June 1998 (*plenary lecture*).

Quatrième Colloque Franco-Roumain “Équations aux Dérivées Partielles : Théorie, Applications, Calcul”, Metz, 31 August - 04 September 1998 (*plenary lecture*).

“Fifty Years of the Seminar for Applied Mathematics”, E.T.H., Zürich, 18-20 November 1998 (*plenary lecture*).

Conférence en l’honneur de Roger Temam, Université d’Orsay, 07-08 March 2000 (*plenary lecture*).

Cinquième Colloque Franco-Roumain de Mathématiques Appliquées, Constanța, 28 August - 01 September 2000 (*inaugural lecture*).

“Applications of Nonlinear Analysis”, Conference in Honor of the Sixtieth Birthday of Stuart Antman, University of Maryland, College Park, 12-13 May 2000 (*plenary lecture*).

“International Symposium on Mathematical Modeling and Numerical Simulation in Continuum Mechanics”, Yamaguchi, 29 September - 03 October 2000 (*inaugural lecture*).

CIMPA School-ISFMA Symposium on “Plates and Shells”, Fudan University, Shanghai, 20-31 August 2001 (*series of lectures*).

Meeting of the Hong Kong Mathematical Society, 11 May 2002 (*plenary lecture*).

“Mathématique et Environnement”, Académie des Sciences de Paris et Real Academia de Ciencias Exactas, Físicas y Naturales de España, 23-24 May 2002 (*plenary lecture*).

International Conference on Nonlinear Partial Differential Equations - Theory and Approximation, City University of Hong Kong, 29 August - 02 September 2002 (*plenary lecture*).

Meeting of the Hong Kong Society of Theoretical and Applied Mechanics, 14 September 2002 (*distinguished speaker*).

Seventh Conference “Shell Structures, Theory and Applications”, Gdańsk-Jurata, Poland, 9-11 October 2002 (*plenary lecture*).

Fifth Congress of Romanian Mathematicians, Pitesti, 22-28 June 2003 (*plenary lecture*, delivered *in absentia* by Stere Ianus).

IFIP’2003 : Twenty-First Conference on System Modeling and Optimization, Sophia-Antipolis, 21-25 July 2003 (*plenary lecture*).

International Conference on Mathematics and its Application, in Honor of the Sixtieth Birthday of Roderick Wong, City University of Hong Kong, 28-31 May 2004 (*plenary lecture*).

“Méthodes Numériques pour les Equations aux Dérivées Partielles”, Conference in Honor of the Sixtieth Birthday of Jean-Marie Thomas, Université de Pau, 18 June 2004 (*inaugural lecture*).

“Nonlinear Analysis”, Conference in Honor of the Sixtieth Birthday of Haïm Brezis, Paris, 21-25 June 2004 (*plenary lecture*).

“Nonlinear Elliptic and Parabolic Problems: A Special Tribute to the Work of Herbert Amann”, University of Zürich, 28-30 June 2004 (*plenary lecture*).

“International Conference on Nonlinear Operators, Differential Equations and Applications”, Babeş-Bolyai University, Cluj-Napoca, 24-27 August 2004 (*plenary lecture*).

“International Conference on Control, Partial Differential Equations and Scientific Computing”, dedicated to the late Professor Jacques-Louis Lions, Beijing, 13-16 September 2004 (*inaugural lecture*).

“Seventeenth IMACS World Congress” (International Association for Mathematics and Computers in Simulation), Paris, 11-15 July 2005 (*plenary lecture*).

“Third Pacific Rim Conference on Mathematics” Fudan University, Shanghai, 17-21 August 2005 (*plenary lecture*).

“The Second International Conference on Scientific Computing and Partial Differential Equations & The First East Asia SIAM Symposium”, Hong Kong Baptist University, 12-16 December 2005 (*plenary lecture*).

“Wofoo Distinguished Applied Mathematics Lecture”, Hong Kong Baptist University, 07 April 2006.

“Classical and Advanced Theories of Thin Structures: Mechanical and Mathematical Aspects”, Advanced School, International Centre for Mechanical Sciences, Udine, 05-08 June 2006 (*series of lectures*).

CIMPA School-ISFMA Symposium on “Differential Geometry : Theory and Applications”, Fudan University, Shanghai, 07-18 August 2006 (*series of lectures*).

Eighth French-Romanian Conference on Applied Mathematics, Chambéry, 28 August-01 September 2006 (*inaugural lecture*).

Annual Conference of the Japan Society for Industrial and Applied Mathematics, University of Tsukuba, 16-17 September 2006 (*inaugural lecture*).

International Conference on Nonlinear Analysis, National Center for Theoretical Sciences, Hsinchu, Taiwan, 20-25 November 2006 (*inaugural lecture*).

DMHF 2007 : COE Conference on the Development of Dynamic Mathematics with High Functionality, Fukuoka, 01-04 October 2007 (*plenary lecture*).

“Fourth Pacific Rim Conference on Mathematics, also celebrating the Tenth Anniversary of the Liu Bie Jiu Centre for Mathematical Sciences”, City University of Hong Kong, 07-11 December 2007 (*plenary lecture*).

“Symposium on Pure and Applied Analysis”, National University of Singapore, 21 April 2008 (*plenary lecture*).

“Modern Engineering and Mathematical Concepts in Computational Shell Mechanics”, Advanced School, International Centre for Mechanical Sciences, Udine, 19-23 May 2008 (*series of lectures*).

“Workshop on Geometric Analysis, Elasticity, and PDE - also celebrating the Sixtieth Birthday of Sir John Ball”, Heriot-Watt University, 23-27 June 2008 (*plenary lecture*).

“Dixièmes Rencontres Mathématiques de Rouen : EDP et Applications: Méthodes Asymptotiques (session dédiée à Doina Cioranescu), Biomathématiques”, Université de Rouen, 25-27 June 2008 (*plenary lecture*).

“International Conference on Modeling and Simulation, on the occasion of Professor Roland Glowinski’s 70th Birthday”, Xi’an Jiaotong University, 09-12 July 2008 (*plenary lecture*).

“Workshop on Computational Mathematics”, Hong Kong Polytechnic University, 24 September 2008 (*invited lecture*).

“ICCES Symposium on Meshless and Other Novel Computational Methods”, Suzhou, 13-17 October 2008 (*plenary lecture*).

“Journées de Metz 2009 - Analytic and Computational Methods in Multi-Scale Modelling and Applications”, Université de Metz, 02-04 April 2009 (*plenary lecture*).

Institute for Mathematical Research (FIM) and Zurich Graduate School in Mathematics (ZGSM), ETH-Zürich and University of Zürich, 11 May - 08 June 2009 (*series of lectures*).

“Cosserat + 100”: International Conference on the legacy of *Théorie des Corps Déformables* by Eugène and François Cosserat in the centenary of its publication, Ecole des Ponts ParisTech-Paris, 15-17 July 2009 (*plenary lecture*).

“Franco - Thai Seminar in Pure and Applied Mathematics”, Mahidol University, Bangkok, 29-31 October 2009 (*plenary lecture*).

International Workshop “Nonlinear PDE’s” to commemorate the work of Jindřich Nečas, Institute of Mathematics of the Czech Academy of Science, Prague, 13-15 December 2009 (*inaugural lecture*).

International Conference on Partial Differential Equations - For the 60th Birthday of Michel Chipot, University of Poitiers, 18-20 February 2010 (*plenary lecture*).

“*Institute for Advanced Study Distinguished Lecture*”, The Hong Kong University of Science and Technology, 11 May 2010.

International Conference on Advances in Partial Differential Equations and their Applications - In Honour of Professor Roger Temam on the occasion of his 70th Birthday, Fudan University, Shanghai, 31 May - 04 June 2010 (*inaugural lecture*).

“Smalefest” - For the 80th Birthday of Professor Steve Smale, Les Tuileries d’Affiac, 15-18 June 2010 (*invited lecture*).

“Alexandru Myller Mathematical Seminar Centennial Conference”, Alexandru Ioan Cuza University, Iași, 21-26 June 2010 (*plenary lecture*).

Conference “Applied and Numerical Analysis”, in honor of Professor Michel Chipot, University of Zürich, 30 September 2010 (*inaugural lecture*).

ICCES’11 : International Conference on Computational & Experimental Engineering and Sciences, Nanjing, 18-21 April 2011 (*keynote lecture*).

SC2011 “International Conference on Scientific Computing” for the 70th Birthday of Claude Brezinski and Sebastiano Seatzu, S. Margherita di Pula, Sardinia, Italy, 10-14 October 2011 (*inaugural lecture*).

Conference “Analysis and Numerics of Partial Differential Equations”, in memory of Enrico Magenes, University of Pavia, 02-04 November 2011 (*plenary lecture*).

International Conference on Scientific Computing, in Honor of Professor Tony F. Chan at his 60th Birthday for his Contributions to Scientific Computing, Chinese University of Hong Kong and Hong Kong University of Science and Technology, 04-07 January 2012 (*plenary lecture*).

Conference on Nonlinear Functional Analysis, in Honor of Professor S. Kesavan’s 60th Birthday, Institute of Mathematical Sciences, Chennai, 18-20 January 2012 (*plenary lecture*, delivered *in absentia* by Muthusamy Vanninathan).

International Conference on Partial Differential Equations: Theory, Control and Approximation Theory - Dedicated to the Scientific Heritage of Jacques-Louis Lions, Fudan University, Shanghai, 28 May - 01 June 2012 (*plenary lecture*).

Eighth European Solid Mechanics Conference, Graz, Austria, 09-13 July 2012 (*keynote lecture*).

International Conference on Differential Geometry in Memory of Su Buqing, Fudan University, Shanghai, 21-24 September 2012 (*plenary lecture*).

President’s Lecture “Excellence in Academia”, City University of Hong Kong, 07 December 2012.

International Conference on New Trends in Splines and Approximation Theory, Institut National des Sciences Appliquées, Rennes, 19-21 June 2013 (*inaugural lecture*).

15èmes Rencontres Mathématiques de Rouen, Université de Rouen, 19-21 June 2013 (*plenary lecture*).

Joint City University - Tel Aviv University Workshop on Mathematical Analysis and Applications, Tel Aviv University, 01-04 October 2013 (*plenary lecture*).

Sino-French Conference on Computational and Applied Mathematics, Xiamen University, 01-05 June 2014 (*plenary lecture*).

12th French-Romanian Conference on Applied Mathematics, Université de Lyon, 25-30 August 2014 (*plenary lecture*).

International Conference on Applied Mathematics, in Honour of Professor Roderick S. C. Wong’s 70th Birthday, City University of Hong Kong, 01-05 December 2014 (*plenary lecture*).

5th International Conference on Scientific Computing and Partial Differential Equations-SCPDE14, on the occasion of Eitan Tadmor’s 60th Birthday, Hong Kong Baptist University, 08-12 December 2014 (*inaugural lecture*).

Zürich Colloquium in Applied and Computational Mathematics, E.T.H. Zürich, 11 March 2015.

2015 International Conference on Numerical Partial Differential Equations and Their Applications, Wuhan University, 25-29 May 2015 (*plenary lecture*).

New Trends in Numerical Analysis-NETNA 2015, Università della Calabria, 18-21 June 2015 (*plenary lecture*).

International Conference on Numerical Mathematics and Scientific Computing, Nanjing University, 16-19 August 2015 (*plenary lecture*).

International Conference “EDP-Normandie”, Université du Havre, 21-22 October 2015 (*inaugural lecture*).

Zürich Colloquium in Applied and Computational Mathematics, University of Zürich, 17 March 2016.

Emerging Trends in Applied Mathematics and Mechanics - ETAMM 2016, Université de Perpignan, 30 May - 03 June 2016 (*inaugural lecture*).

Zürich Colloquium in Applied and Computational Mathematics, E.T.H.-Zürich, 09 November 2016.

The 6th International Conference on Scientific Computing and Partial Differential Equations, on the occasion of Roland Glowinski’s 80th Birthday (SCPDE 2017), Hong Kong Baptist University, 05-08 June 2017 (*inaugural lecture*).

Sino-French Conference on Modeling, Mathematical Analysis and Computation, in Honor of Prof. Claude-Michel Brauner on the Occasion of his 70th Birthday, Xiamen University, 09-12 June 2017 (*plenary lecture*).

Sim Tech Cluster of Excellence Colloquium, University of Stuttgart, 19 October 2017.

The Third International Conference on Applications of Mathematics and Informatics in Natural Sciences and Engineering, Dedicated to the 80th Birthday of David Gordeziani, Tbilisi State University, Georgia, 06-09 December 2017 (*inaugural lecture*, delivered *in absentia* by Gia Avalishvili).

Conference Commemorating the Memory of Gérard Tronel, Université Pierre et Marie Curie, Paris, 12 January 2018 (*inaugural lecture*).

“Montpellier Excellence Colloquium”, Université de Montpellier, 27 September 2018 (*inaugural lecture*).

International Conference “50th Birthday of the Laboratory Jacques-Louis Lions”, Sorbonne Université, Roscoff, 04-08 March 2019 (*plenary lecture*).

“*Hong Kong Institute of Advanced Study Distinguished Lecture*”, City University of Hong Kong, 05 November 2020.

Politecnico di Milano, 19 September - 07 October 2022 (*series of lectures*).

“*PolyU 85th and AMA 50th Anniversary Distinguished Lecture*”, The Hong Kong Polytechnic University, 22 November 2022.

SELECTED VISITS AND TALKS AT UNIVERSITY COLLOQUIUMS (Since 1976)

University of Göteborg, March 1976
Imperial College, London, February 1977
University of Louvain, November 1977 and February 1978
University of Kyoto, July 1978
University of Tokyo, July 1978
Cornell University, Ithaca, July 1980
University of California, Berkeley, February 1981
University of Maryland, College Park, February 1981
University of Pavia, November 1981
École Polytechnique Fédérale, Lausanne, April 1982
Beijing University, November 1982
Fudan University, Shanghai, November 1982
University of Göteborg, October 1983
Mathematics Research Center, University of Wisconsin, Madison, August 1984
University of Texas at Austin, August 1984
University of Stuttgart, October-December 1984
University of Santiago de Compostela, October 1985
University of Pavia, January 1986
University of Houston, October 1986
Brown University, Providence, January 1987
Stanford University, February 1987
Courant Institute, New York, February 1987
University of Pavia, March 1987
University of Stuttgart, February 1988
École Polytechnique Fédérale, Lausanne, March 1988
Istituto Mauro Picone per le Applicazioni del Calcolo (IAC), Rome, April 1988
E.T.H., Zürich, May 1988
Mathematical Sciences Institute, Cornell University, Ithaca, August-September 1988
Fudan University, Shanghai, November 1988
University of Heidelberg, January 1989
University of Stuttgart, September 1989
E.T.H., Zürich, November 1989
Courant Institute, New York, March-April 1990
University of Rome II, June 1990
Fudan University, Shanghai, October 1991
Courant Institute, New York, November 1991
University of Pavia, March 1992
University of Stuttgart, June 1993
Courant Institute, New York, September 1993
University of Stuttgart, January 1994
University of Pavia, March 1994
University of Bucharest, May 1994
Courant Institute, New York, June 1994
Fudan University, Shanghai, September 1994
University of Stuttgart, January 1995
Courant Institute, New York, September 1995
Istituto Mauro Picone per le Applicazioni del Calcolo (IAC), Rome, February 1996
Fudan University, Shanghai, August 1996
Jiaotong University, Xi'an, August 1996
The Chinese University of Hong Kong, November 1996
Institute of Mathematics of the Romanian Academy, Bucharest, October 1997
University of Pavia, March 1998
University of Bucharest, June 1998
University of Bucharest, November 1998

University of Brasov, November 1998
 University of Iași, November 1998
 École Polytechnique Fédérale de Lausanne, March 1999
 University of Bucharest, April 1999
 City University of Hong Kong, September 1999
 University of Constanța, November 1999
 University of Pavia, February 2000
 City University of Hong Kong, March 2000
 Workshop “Elastic Shells: Modeling, Analysis and Numerics”, Mathematical Sciences Research
 Institute, Berkeley, April 2000
 Fudan University, June 2000
 Kyushu University, September 2000
 École Polytechnique Fédérale de Lausanne, November 2000
 University of Stuttgart, December 2000
 E.T.H., Zürich, January 2001
 University of Zürich, January 2001
 Oxford University, January 2001
 City University of Hong Kong, July-August 2001
 CIMPA School - ISFMA Symposium “Plates and Shells”, Fudan University, Shanghai, August 2001
 University of Stuttgart, November 2001
 University of Zürich, December 2001
 Fudan University, Shanghai, April 2002
 Tsinghua University, Beijing, April 2002
 Beijing University, April 2002
 Chinese University of Hong Kong, May 2002
 Video-Conference from City University of Hong Kong to Université Pierre et Marie Curie, Paris,
 May 2002
 University of Zürich, May 2002
 Hong Kong University of Science and Technology, September 2002
 Université Pierre et Marie Curie, Paris, October 2003
 Hong Kong Baptist University, November 2003
 University of Zürich, December 2003
 Université Pierre et Marie Curie, Paris, February 2004
 University of Zürich, July 2004
 Beijing University, September 2004
 Fudan University, Shanghai, October 2004 (as part of a “Series of Public Lectures by Academicians
 of City University in the Mainland”
 University of Zürich, May 2005
 “Kyoto Analysis Colloquium”, Kyoto University, November 2005
 University of Zürich, January 2006
 The University of Hong Kong, April 2006
 Collège de France, Paris, May 2006
 Xi’an Jiaotong University, October 2006
 Chinese University of Hong Kong, November 2006
 University of Zürich, August 2007
 Xi’an Jiaotong University, July 2008
 University of Zürich, August 2008
 Fudan University, April 2009
 University of Zürich, May - June 2009
 Ecole Polytechnique Fédérale, Lausanne, May 2011
 Ecole Polytechnique Fédérale, Lausanne, July 2011
 National University of Singapore, November 2011
 University of Stuttgart, May 2012
 University of Zürich, May 2012

Université Pierre et Marie Curie, April 2013
Université Pierre et Marie Curie, July 2013
National University of Singapore, December 2013
Université Pierre et Marie Curie, January 2014
Université Pierre et Marie Curie, April 2014
Université Pierre et Marie Curie, July 2014
Ecole Polytechnique Fédérale, Lausanne, December 2014
University of Zürich, March 2015
Ecole Polytechnique Fédérale, Lausanne, July 2015
Université Pierre et Marie Curie, July 2015
Université Pierre et Marie Curie, December 2015
University of Zürich, March 2016
Université Pierre et Marie Curie, July 2016
Université Pierre et Marie Curie, August 2016
E.T.H., Zürich, November 2016
National University of Singapore, December 2016
Université Pierre et Marie Curie, January 2017
Ecole Polytechnique Fédérale, Lausanne, February 2017
Université Pierre et Marie Curie, April 2017
E.T.H., Zürich, June 2017
Université Pierre et Marie Curie, October 2017
University of Stuttgart, October 2017
National University of Singapore, February 2018
E.T.H., Zürich, March 2018
E.T.H., Zürich, June 2018
Sorbonne Université, Campus Pierre et Marie Curie, July-August 2018
E.T.H., Zürich, January 2019
Sorbonne Université, Campus Pierre et Marie Curie, April 2019
University of Zürich, June-August 2019
E.T.H., Zürich, June-August 2019
University of Stuttgart, October 2019
Sorbonne Université, Campus Pierre et Marie Curie, December 2019
National University of Singapore, December 2019
Hong Kong Institute for Advanced Study, March 2023

EDITORIAL ACTIVITIES

Editing of Series :

- Co-Editor (with J.L. LIONS) of the Series :
“Mathématiques Appliquées pour la Maîtrise”, edited par Masson, Paris (1982-1997), then by Dunod, Paris (1998-2001):
Nineteen volumes published, between 1982 and 1994
- “Recherches en Mathématiques Appliquées”, edited by Masson, Paris (1985-1997):
Thirty-nine volumes published, between 1986 and 1996
- Co-Editor (with J.L. LIONS) of the
“Handbook of Numerical Analysis”, edited by North-Holland, Amsterdam (1990-2001):
Nine volumes published, between 1990 and 2003
- Co-Editor (with P.L. LIONS) of the Series :
“Series in Applied Mathematics”, edited by Gauthier-Villars & Elsevier, Paris (1998-2001):
Five volumes published, between 1998 and 2001
- Co-Editor (with LI Ta-Tsien) of the Series :
“Series in Contemporary Applied Mathematics”, edited by Higher Education Press, Shanghai, since 2000:
Eighteen volumes published since 2000
- Co-Editor (with D.N. ARNOLD, P.L. LIONS, and H.A. VAN DER VORST) of the Series :
“Studies in Mathematics and its Applications”, edited by North-Holland, Amsterdam (2001-2003):
Two volumes published, in 2002 and 2003
- Editor of the Series :
“Handbook of Numerical Analysis”, edited by Elsevier, Amsterdam, (2002-2011).
Seven volumes published, between 2003 and 2011

Membership in Editorial Boards of Series :

- “Acta Numerica”, edited by Cambridge University Press, Cambridge, (1990-2020)
- “Cambridge Monographs on Applied Mathematics and Numerical Analysis”, edited by Cambridge University Press, Cambridge (1994-2004)
- “Traduction des Classiques Français en Mathématiques”, Higher Education Press”, Shanghai, since 2007.
- “Series in Contemporary Mathematics”, Shanghai Scientific & Technical Publishers, Shanghai, and Springer, Heidelberg, since 2014.

Editor-in-Chief of :

- RAIRO-Numerical Analysis : 1973-1983 (with P.A. RAVIART until 1980)
Numerische Mathematik : 1990-2002 (with R.S. VARGA)
- Comptes-Rendus de l'Académie des Sciences, Paris - Série I : Mathématique : 1996-2019 (with B. MALGRANGE until 2004; with J.-M. BONY and M. YOR until 2005; with J.-M. CORON and J.-P. DEMAILLY until 2015; with J.-M. CORON and C. SOULÉ until 2019)
- Analysis and Applications: 2005-2012 (with R.S.C. WONG and R.M. MIURA)

Membership in Editorial Boards :

Current membership :

- Advances in Nonlinear Analysis (Honorary Editor)
Analysis and Applications (Honorary Editor-in-Chief since 2013)
Annals of the University of Bucharest - Mathematics series
Annals of the University of Craiova, Mathematics and Computer Science Series
Applicable Analysis (Honorary Editor since 2012)
Asymptotic Analysis
Chinese Annals of Mathematics - Series B
Comptes Rendus de l'Académie des Sciences - Mathématique
Comptes Rendus de l'Académie des Sciences - Série IIb : Mécanique

Computer Methods in Applied Mechanics and Engineering
ESAIM : Control, Optimisation and Calculus of Variations
Foundations of Computational Mathematics
International Journal of Applied Mathematics and Mechanics
Journal de Mathématiques Pures et Appliquées
Journal of Computational Mathematics (Honorary Editor since 2007)
Journal of Elasticity
Journal of the European Academy of Sciences
Mathematical Models & Methods in Applied Sciences (Honorary Editor since 2017)
Mathematics and Mechanics of Solids
Nonlinear Analysis and Differential Equations (Honorary Editor)
Numerical Algorithms
Numerical Methods for Partial Differential Equations
Numerische Mathematik (Honorary Editor since 2002)
Proceedings of Javakhishvili Tbilisi State University
Revue Roumaine de Mathématiques Pures et Appliquées
Scientific Bulletin of the University Politehnica of Bucharest, Series A : Mathematics and Physics

Past membership :

Computational Mechanics
Computers and Mathematics with Applications
ESAIM : Mathematical Modelling and Numerical Analysis
International Journal for Numerical Methods in Engineering
Modélisation Mathématique et Analyse Numérique – “M²AN”
Nonlinear Analysis, Series A : Theory & Methods
Numerical Linear Algebra with Applications
Journal of the Indian Mathematical Society
Modelling and Scientific Computing
Revista Matemática Complutense

APPROVED RESEARCH PROJECTS

While at Université Pierre et Marie Curie :

Local Project leader, *European Scientific Cooperation Project on “Mathematical Problems in Nonlinear Mechanics”* (Project coordinator : K. KIRCHGÄSSNER), 1987–1990.

Project leader and coordinator, *“Junctions in Elastic Multi-Structures”*, European Cooperation “S.C.I.E.N.C.E.” Program, 1991–1993.

Project leader and coordinator, *“Shells : Mathematical Modeling and Analysis, Scientific Computing”*, European Cooperation “Human Capital and Mobility” Program, 1995–1997.

While at City University of Hong Kong, as Principal Investigator :

CERG = Competitive Earmarked Research Grant (Research Grants Council of Hong Kong)

SRG = Strategic Research Grant (City University of Hong Kong)

GRF = General Research Fund (Research Grants Council of Hong Kong)

Start-up Grant (Mar 2002 – Mar 2008): Nonlinear partial differential equations: Theory, applications, approximation.

SRG (Dec 2002 – Nov 2005) : Generalized von Kármán plates

CERG (Oct 2003 – Sept 2006) : Continuity of a surface as a function of its fundamental forms, and applications.

CERG (Jan 2005 – Dec 2007) : Rotation fields in differential geometry and nonlinear elasticity.

CERG (Jan 2006 – Dec 2008) : A new approach to quadratic minimization problems and Korn’s inequalities.

CERG (Jan 2007 – Dec 2009) : Direct computation of stresses in elasticity problems.

SRG (Oct 2007 – Sept 2009) : Extensions of the Cesàro-Volterra path integral formula.

GRF (Jan 2009 – Dec 2011) : New existence theorems in nonlinear elasticity.

GRF (Jan 2010 – Dec 2012) : Polyconvexity on a surface and new existence theorems in nonlinear shell theory.

GRF (Jan 2011 – Dec 2013) : New formulation of the boundary value problems of elasticity.

GRF (Jan 2012 – Jun 2015) : Nonlinear Korn’s inequalities and related questions.

GRF (Jan 2013 – Jun 2016) : Donati compatibility conditions for plates and shells.

GRF (Jan 2015 – Dec 2017) : Two-dimensional intrinsic elasticity.

GRF (Jan 2016 – Dec 2018) : Contributions to the mathematical foundations of the theory of nonlinearly elastic shells.

GRF (Jan 2017 – Dec 2019) : New nonlinear estimates for surfaces in terms of their fundamental forms and applications.

GRF (Jan 2018 – Dec 2020) : Obstacle problems for shells.

GRF (Jan 2020 – Dec 2022) : Intrinsic theory of nonlinearly elastic plates and shallow shells.

OTHER ACTIVITIES (Since 1992)

- Member, Executive Committee, International Society for the Interaction of Mechanics and Mathematics (I.S.I.M.M.), 1988-1995.
- Member, Executive Committee, Société de Mathématiques Appliquées et Industrielles (S.M.A.I.), 1992–1998.
- Organizer (with K. KIRCHGÄSSNER) of the Conference “*Lower-Dimensional Theories and Domain Decomposition Methods in Mechanics*”, Oberwolfach, 20-24 July 1992.
- Organizer (with L. TRABUCHO and J.M. VIAÑO) of the Conference “*Asymptotic Method for Elastic Structures*”, Estoril, 4-8 October 1993.
- Organizer (with D. CIORANESCO and M. IOSIFESCU) of the Third French-Romanian Symposium “*Analysis and Modeling*”, Cluj-Napoca, 23-27 September 1996.
- Chair, Academic Advisory Committee, École Polytechnique, Palaiseau (1997-2002).
- Organizer (with M. BERNADOU and J.M. VIAÑO) of the “*International Conference on Shells*”, University of Santiago de Compostela, 14-18 July 1997.
- Member, Executive Committee, International Society for the Interaction of Mechanics and Mathematics (I.S.I.M.M.), 1998-2001.
- Honorary member, “Liu Bie Ju Centre for Mathematical Sciences”, City University of Hong Kong, 1998-2002.
- Member, Selection Committee, “Theodore von Kármán Prize”, S.I.A.M. (J. E. MARSDEN, Chair), 1998.
- Co-Director (with LI Ta-tsien), “Chinese-French Institute of Applied Mathematics”, Paris and Shanghai (1999-2001).
- Organizer (with D. ARNOLD and I. BABUŠKA, Chairs, and F. BREZZI and J. PITKÄRANTA) of the Workshop “*Shells: Modeling, Analysis and Numerics*”, Mathematical Sciences Research Institute, Berkeley, 17-28 April 2000.
- Organizer of the Doctoral Program “*Mathematics and its Applications*”, Central European University, Budapest (2000-2002).
- Chair, Scientific Council of the “Chinese-French Institute of Applied Mathematics”, Paris and Shanghai (2001-2003).
- Member, Evaluation Committee of the Department of Mathematics of the University of Zürich (F. HIRZEBRUCH, Chair), 29-31 October 2001.
- Organizer (with LI Ta-tsien and A. PIRIOU) of the ISFMA Symposium - CIMPA School “*Plates and Shells*”, Fudan University, Shanghai, 20-31 August 2001.
- Organizer (with Roderick WONG) of the “*International Conference on Nonlinear Partial Differential Equations - Theory and Approximation*”, City University of Hong Kong, 29 August - 02 September 2002.
- Organizer (with Roderick WONG) of the “*Mathematical Analysis and its Applications Colloquium*”, Liu Bie-Ju Centre for Mathematical Sciences, City University of Hong Kong, 2002-2010.
- Organizer (with Felipe CUCKER) of the “*Department of Mathematics Colloquium*”, City University of Hong Kong, 2002-2010.
- Deputy Director (Director : Roderick WONG) of the Liu Bie-Ju Centre for Mathematical Sciences, City University of Hong Kong, 2002-2013.
- Member, Council of the Légion d’Honneur Club-Hong Kong Chapter (Dr. James KUNG, then Sir David LI, Presidents), 2002-2022.
- Member, Scientific Council of the France-China Foundation for Sciences and their Applications (J. CAEN, and G. KAHN, Co-Chairs), 2004-2010.
- Co-Chair (with Qiang ZHANG) of the Organizing Committee (members : Felipe CUCKER, Hui Hui DAI, Tong YANG) of the “*International Conference on Mathematics and its Applications*”, in Honor of the Sixtieth Birthday of Roderick Wong, City University of Hong Kong, 28-31 May 2004.

Organizer of the “*France-Hong Kong Distinguished Lecture Series*”, a series of high-profile lectures under the auspices of the French Academy of Sciences, organized jointly by the Consulate General of France in Hong Kong, the French Academy of Sciences, and City University of Hong Kong, 2005-2022.

Co-organizer (with Roderick WONG) of the “*William Benter Distinguished Lecture Series*”, a series of distinguished lectures in pure and applied mathematics, 2005-2013.

Member, Honorary Award Committee, City University of Hong Kong, January 2005 - December 2006.

Organizer of the session “Applied Differential Geometry” at the “*Third Pacific Rim Conference on Mathematics*”, Fudan University, Shanghai, 17-21 August 2005.

Member of the “Physical Sciences Panel” of the Research Grants Council (RGC), Hong Kong, August 2005 - August 2007.

Organizer (with Li Ta-tsien) of the ISFMA Symposium - CIMPA School “*Differential Geometry: Theory and Applications*”, Fudan University, Shanghai, 07-18 August 2006.

Member, Selection Committee, “ICIAM Su Buchin Prize 2007” (Li Ta-tsien, Chair), 2006 - 2007.

Coordinator, on behalf of City University of Hong Kong, of visits made under the Agreement on Academic Exchange between City University of Hong Kong and Collège de France, Paris, France, 2007-2022.

Head of the Division of Mathematics and Computer Science of the European Academy of Sciences, Brussels, 2007 - 2010.

Member of the Selection Committee of the Research Grants Council Joint Research Schemes on travel grants and workshop/seminar grants, 2007-2008.

Member, “Comité Pays en Développement” (COPED), French Academy of Sciences, 2007-2011.

Co-Chair (with Robert M. MIURA and Roderick WONG) of the organizing Committee (members: Felipe CUCKER and Ya-Yan LU) of the “*Fourth Pacific Rim Conference on Mathematics, also celebrating the Tenth Anniversary of the Liu Bie Ju Centre for Mathematical Sciences*”, City University of Hong Kong, 07-11 December 2007.

Coordinator (with Wilfried B. KRÄTZIG and Werner WAGNER) of the Advanced School “*Modern Engineering and Mathematical Concepts in Computational Shell Mechanics*”, CISM (International Centre for Mechanical Sciences), Udine, 19-23 May 2008.

Head of the Division of Mathematics of the European Academy of Sciences, Brussels, 2010 - 2015.

Chair of the Panel “Numerical Analysis and Scientific Computing”, Program Committee for the *2010 International Congress of Mathematicians* (19-27 August 2010, Hyderabad).

Member, Presidential Committee on Chair Professors, City University of Hong Kong, 2011-2022.

Co-organizer (with LI Ta-tsien and Y. MADAY) of the “*International Conference on Partial Differential Equations: Theory, Control and Approximation Theory - Dedicated to the Scientific Heritage of Jacques-Louis Lions*”, Fudan University, Shanghai, 28 May - 01 June 2012.

Member of the Scientific Council of the Mathematics Department of the “Scuola Normala Superioara - Bucuresti”, since December 2012.

Member, Liu Bie-Ju Centre for Mathematical Sciences, City University of Hong Kong, 2014-2019.

Member of the Selection Committee of the Second “Stephen Smale Prize”, awarded at the meeting of the Society for the Foundations of Computational Mathematics (FoCM), held in Montevideo, 11-20 December 2014.

Member, Selection Committee, “Prix franco-chinois 2015”, French Academy of Sciences (C. BRECHIGNAC, Chair).

Member, ICIAM (International Council for Industrial and Applied Mathematics) Prize Committee for the 2015 ICIAM Prizes awarded at the Eighth International Congress on Industrial and Applied Mathematics, Beijing, 10-14 August 2015.

Chair of the Subcommittee for the 2015 ICIAM Su Buchin Prize, awarded at the Eighth International Congress on Industrial and Applied Mathematics, Beijing, 10-14 August 2015.

Member, Committee on Election, Academy of Science of Hong Kong, 2016.

Member, Institute for Advanced Study Managing Committee, City University of Hong Kong, since 2017.

DOCTORAL STUDENTS AND THEIR DISSERTATIONS

- Jean-Claude PAUMIER : “Analyse numérique d’un problème de coque élastique mince en théorie linéaire et non linéaire”, *Doctorat de Troisième Cycle*, 13 May 1977.
- Patrick RABIER : “Interpolation des fonctions harmoniques et polyharmoniques et application à une méthode d’éléments finis pour le problème de Neumann”, *Doctorat de Troisième Cycle*, 10 June 1977.
- Michel BERNADOU : “Sur l’analyse numérique du modèle linéaire de coques minces de W.T. Koiter”, *Doctorat d’État*, 16 June 1978.
- Srinivasan KESAVAN : “Sur l’approximation de problèmes linéaires et non linéaires de valeurs propres”, *Doctorat d’État*, 15 June 1979.
- Paula de OLIVEIRA : “Maillages optimaux dans les méthodes d’éléments finis”, *Doctorat de Troisième Cycle*, 18 June 1979.
- Philippe DESTUYNDER : “Sur une justification des modèles de plaques et de coques par les méthodes asymptotiques”, *Doctorat d’État*, 18 January 1980.
- Roberto HOMMAN CANCELO : Une justification de modèles de plaques en élasticité : conditions aux limites de type Fourier, problèmes unilatéraux”, *Doctorat de Troisième Cycle*, 28 November 1980.
- Patrick RABIER : “Une notion de convexité conduisant à des équations possédant trois solutions et étude locale des problèmes non linéaires perturbés”, *Doctorat d’État*, 10 December 1980.
- Annie RAOULT : “Contributions à l’étude des modèles d’évolution de plaques et à l’approximation d’équations d’évolution linéaires du second ordre par des méthodes multipas”, *Doctorat de Troisième Cycle*, 12 December 1980.
- Françoise DUPLESSIS-DELPY : “Approximation par éléments finis d’un modèle en élasticité tridimensionnelle non linéaire”, *Doctorat de Troisième Cycle*, 19 December 1980.
- Geneviève BOUGAS : “Sur une méthode de pénalisation-dualité pour la résolution numérique du problème des plaques en vibrations”, *Doctorat de Troisième Cycle*, 23 June 1981.
- Dominique BLANCHARD : “Justification de modèles de plaques correspondant à différentes conditions aux limites”, *Doctorat de Troisième Cycle*, 23 June 1981.
- Paula de OLIVEIRA : “Alguns problemas em otimização de estruturas”, *Doutor em Matemática*, Universidade de Coimbra, 8 October 1981.
- Hervé LE DRET : “Quelques problèmes d’existence en élasticité non linéaire”, *Doctorat de Troisième Cycle*, 2 June 1982.
- Paul SABLONNIÈRE : “Bases de Bernstein et approximants splines”, *Doctorat d’État*, 11 June 1982.
- Juan VIAÑO REY : “Contribution à l’étude des modèles bidimensionnels en thermo-élasticité de plaques d’épaisseur non constante”, *Doctorat de Troisième Cycle*, 16 December 1983.
- Christian FOURCADE : “Étude d’un problème de bifurcation imparfaite en présence de symétries : résolution locale des équations de von Kármán posées sur un domaine rectangulaire”, *Doctorat de Troisième Cycle*, 1 March 1983.
- Saïd EL HAJJI : “Contribution à la résolution du problème général de la bifurcation à un paramètre par l’étude d’un algorithme de calcul des solutions d’équations non linéaires”, *Doctorat de Troisième Cycle*, 15 December 1983.
- Olivier-Pierre JACQUOTTE : “Analyse numérique de problèmes de mécanique”, *Doctorat de Troisième Cycle*, 30 November 1984.
- Jean-Claude PAUMIER : “Analyse de certains problèmes non linéaires : modèles de plaques et de coques”, *Doctorat d’État*, 19 December 1985.
- Peregrina Quintela ESTEVEZ : “Elasticidad nonlineal. Modelo de von Kármán”, *Doctor en Matemáticas* Universidad de Santiago de Compostela, June 1986.
- Séverine FAYOLLE : “Sur l’analyse numérique de raccords de poutres et de plaques”, *Doctorat de Troisième Cycle*, 17 March 1987.
- Jean-Louis DAVET : “Modélisation asymptotique en dynamique des structures élancées et en mécanique des matériaux composites”, *Doctorat de l’Université Pierre et Marie Curie*, 7 April 1987.
- Marie-Pascale BOSSE : “Homogenization of the layered medium equation”, *Ph.D. (Doctor of Philosophy)*, University of Texas at Austin, August 1987.
- Robert NZENGWA : “Méthodes incrémentales en élasticité non linéaire ; jonctions entre structures élastiques tridimensionnelle et bidimensionnelle”, *Doctorat de l’Université Pierre et Marie Curie*, 8 July 1987.

- Laurent FRANCEZ : “Quelques méthodes de calcul de matrices d’impédance”, *Doctorat de Troisième Cycle*, 9 July 1987.
- Pascal TROUVÉ : “Analyse de quelques méthodes non conformes d’éléments finis pour l’approximation des problèmes de coques minces”, *Doctorat de l’Université Pierre et Marie Curie*, 22 January 1988.
- Hervé LE DRET : “Contributions à l’étude de quelques problèmes issus de l’élasticité linéaire et non linéaire”, *Doctorat d’État*, 31 May 1988.
- Peregrina Quintela ESTEVEZ : “Sur quelques questions d’élasticité non linéaire et de théorie des plaques”, *Doctorat de l’Université Pierre et Marie Curie*, 1 June 1988.
- Annie RAOULT : “Analyse mathématique de quelques modèles de plaques et de poutres élastiques ou élasto-plastiques”, *Doctorat d’État*, 2 June 1988.
- Bopeng RAO : “Sur quelques questions d’élasticité non linéaire relatives aux coques minces”, *Doctorat de l’Université Pierre et Marie Curie*, 19 January 1989.
- Yan XIANG : “Un modèle de plaque en élasticité linéaire et non linéaire. Convergence du développement asymptotique de la plaque élastique non linéaire”, *Doctorat de l’Université Pierre et Marie Curie*, 8 February 1989.
- Christine GEORGELIN : “Contribution à l’étude de quelques problèmes en élasticité tridimensionnelle”, *Doctorat de l’Université Pierre et Marie Curie*, 15 February 1989.
- Françoise COULOMB : “Algorithmes parallèles pour la résolution de l’équation de diffusion par des méthodes d’éléments finis et par les méthodes nodales”, *Doctorat de l’Université Pierre et Marie Curie*, 1 March 1989.
- Isabel de FIGUEIREDO : “Modèles de coques élastiques non linéaires : méthode asymptotique et existence de solutions”, *Doctorat de l’Université Pierre et Marie Curie*, 10 October 1989.
- Philippe RYCKELYNCK : “Sur les variétés de configurations tridimensionnelles en élasticité non linéaire”, *Doctorat de l’Université Pierre et Marie Curie*, 14 November 1989.
- Martial AUFRANC : “Sur quelques problèmes de jonctions dans les multi-structures élastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 8 June 1990.
- Dominique BLANCHARD : “Étude de problèmes d’évolution en mécanique des milieux dissipatifs”, *Doctorat d’État*, 9 December 1990.
- Frédéric BOURQUIN : “Synthèse modale et analyse numérique des multistruktures élastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 7 February 1991.
- Isabelle GRUAIS : “Analyse asymptotique de quelques problèmes de jonctions en théorie des plaques et des poutres élastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 25 June 1991.
- Christophe LEBELTEL : “Méthodes mathématiques pour les plaques thermoélastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 18 December 1991.
- François JOUVE : “Modélisation de l’œil en élasticité non linéaire”, *Doctorat de l’Université Pierre et Marie Curie*, 2 April 1992.
- Frédéric d’HENNEZEL : “Méthodes de décomposition de domaine dans les structures et les multistruktures élastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 23 April 1992.
- Annie CUBIER : “Analyse et simulation numériques de jonction de coques minces”, *Doctorat de l’Université Pierre et Marie Curie*, 14 October 1994.
- Oana ALEXANDRESCU-IOSIFESCU : “Modèles non linéaires de coques : théorèmes d’existence et de régularité. Analyse limite lorsque la coque devient une plaque”, *Doctorat de l’Université Pierre et Marie Curie*, 20 October 1995.
- Karine GENEVEY : “Sur quelques questions liées à la théorie mathématique des coques minces”, *Doctorat de l’Université Pierre et Marie Curie*, 20 June 1996.
- Stéphane BUSSE : “Sur quelques questions liées à la théorie mathématique des coques en coordonnées curvilignes”, *Doctorat de l’Université Pierre et Marie Curie*, 31 January 1997.
- Liming XIAO: “Some problems of two-dimensional theory for elastic shells”, *Ph.D.*, Fudan University, 14 June 1997.
- José Manuel Rodriguez SEIJO : “Analyse asymptotique des pales de turbines et des poutres à profil mince”, *Doctorat de l’Université Pierre et Marie Curie*, 31 October 1997.
- Cristinel MARDARE : “Analyse asymptotique et modèles bi-dimensionnels des coques linéairement rigides”, *Doctorat de l’Université Pierre et Marie Curie*, 14 November 1997.
- Mohammed RAHMOUNE : “Plaques intelligentes piézoélectriques : Modélisations et applications au contrôle santé”, *Doctorat de l’Université Pierre et Marie Curie*, 9 December 1997.

- Sebastian Lucian ŞLICARU : “Quelques résultats dans la théorie des coques linéairement élastiques à surface moyenne uniformément elliptique ou compacte sans bord”, *Doctorat de l’Université Pierre et Marie Curie*, 20 January 1998.
- Georgiana ANDREOIU : “Analyse des coques faiblement courbées”, *Doctorat de l’Université Pierre et Marie Curie*, 11 June 1999.
- Daniel COUTAND : “Analyse mathématique de quelques problèmes d’élasticité non linéaire et de calcul des variations”, *Doctorat de l’Université Pierre et Marie Curie*, 26 November 1999.
- Anne ROQUEFORT : “Sur quelques questions liées aux modèles non linéaires de coques minces”, *Doctorat de l’Université Pierre et Marie Curie*, 15 January 2001.
- Christophe COLLARD : “Modélisation de coques élastiques minces géométriquement non linéaires et applications à la piezoélectricité”, *Doctorat de l’Université Pierre et Marie Curie*, 15 January 2001.
- Sorin MARDARE : “Sur quelques problèmes de géométrie différentielle liés à la théorie de l’élasticité”, *Doctorat de l’Université Pierre et Marie Curie*, 15 December 2003.
- Karim TRABELSI : “Sur la modélisation des plaques minces en élasticité non linéaire”, *Doctorat de l’Université Pierre et Marie Curie*, 7 December 2004.
- Marcela Gabriela SZOPOS : “Sur quelques questions de géométrie différentielle liées à la théorie des corps et des fils élastiques”, *Doctorat de l’Université Pierre et Marie Curie*, 9 May 2005.
- Xiaoqin SHEN : “On the theory of linearly and nonlinearly elastic shells and its applications”, *Ph.D.*, Xi’an Jiaotong University, Xi’an, 22 November 2007.
- Ming SHEN : “Saint Venant compatibility conditions in curvilinear coordinates and applications to elasticity”, *Ph.D.*, City University of Hong Kong, 27 February 2008.
- Michele SERPILLI : “Contributions à la modélisation des structures minces et d’assemblages multicouches”, *Doctorat de l’Université de Montpellier 2*, 13 June 2008.
- Radu GOGU : “Non-linear shell theory: A new approach”, *Ph.D.*, City University of Hong Kong, 4 July 2013.
- Yifeng HOU : “Korn inequalities on surfaces: New proofs and new inequalities”, *Ph.D.*, City University of Hong Kong, 23 November 2015.
- Maria MALIN (*Hong Kong PhD Fellowship Scheme Awardee*): “Some new results about J.L.Lions lemma and Korn’s inequalities on surfaces”, *Ph.D.*, City University of Hong Kong, 22 May 2017.
- Paolo PIERSANTI (*Hong Kong PhD Fellowship Scheme Awardee*): “Obstacle problems in linearised elasticity”, *Ph.D.*, City University of Hong Kong, 14 May 2019.

MAIN THEMES OF WORKS

- Numerical analysis of finite difference methods and general variational approximation methods* : Discrete Green's functions ; discrete maximum principle and convergence ; nonlinear problems of monotone type.
- Numerical analysis of the finite element method in general* : Lagrange and Hermite interpolation theory in \mathbf{R}^n ; discrete maximum principle and uniform convergence ; curved finite elements ; numerical integration.
- Numerical analysis of the finite element method applied to problems in elasticity and fluid mechanics*: Non-conforming finite elements and macro-elements for plate problems ; mixed method for the biharmonic equation in fluid mechanics ; finite element methods for shell problems.
- Modeling and mathematical analysis in three-dimensional linearized and nonlinear elasticity* : Existence of solutions ; incremental methods ; modeling of constitutive equations ; modeling of contact and non-interpenetration.
- Mathematical analysis of the von Kármán and generalized von Kármán equations* : Existence, multiplicity, and bifurcation of solutions, equivalence with a "displacement" problem.
- Modeling of plates by the techniques of asymptotic analysis and singular perturbations* : Convergence to a two-dimensional model in the linear case ; justification of two-dimensional model, including the von Kármán equations, in the nonlinear case by formal asymptotic expansions ; extension to "shallow shells" ; "generalized" von Kármán and Marguerre-von Kármán equations.
- Modeling, mathematical analysis, and numerical simulation of "elastic multi-structures" that comprise junctions* : Convergence to a "pluri-dimensional" model in the linear case ; justification of the boundary conditions of clamping for a plate ; vibrations of a multi-structure.
- Modeling and mathematical analysis of general shells* : Existence theorems for two-dimensional linear shell models (W.T. Koiter, P.M. Naghdi, "flexural", "membrane") ; justification of two-dimensional linear shell models ("membrane" and "flexural" equations ; W.T. Koiter's equations) by the techniques of asymptotic analysis ; existence theory for nonlinear shell equations ; definition of a new nonlinear shell model "of Koiter's type" ; intrinsic shell equations.
- Intrinsic methods in elasticity* : Reformulation of linear shell theory with the linearized change of metric and change of curvature tensors as new unknowns ; linear and nonlinear Saint-Venant and Donati compatibility conditions in Sobolev spaces ; implementation as a finite element method with "edge" finite elements ; reformulation of nonlinear three-dimensional elasticity in terms of the Cauchy-Green strain tensor as the only unknown.
- Functional analysis* : Weak Poincaré lemma and weak Saint Venant compatibility conditions ; generalization of the Cesàro-Volterra formula ; linear and nonlinear Donati compatibility conditions ; relations between the lemma of Jacques-Louis Lions, Nečas inequality, de Rham theorem, and Bogovskii theorem.
- Differential geometry* : Inequalities of Korn's type on a surface ; rigidity theorems and manifold theory ; recovery and continuity of a manifold, with or without boundary, as a function of its metric tensor ; nonlinear Korn inequalities in an open set in \mathbf{R}^n ; recovery of a surface, with or without boundary, with prescribed first and second fundamental forms ; continuity of a surface, with or without boundary, considered as a function of its two fundamental forms ; nonlinear Korn inequalities on a surface in Sobolev spaces and in Fréchet spaces.

LIST OF PUBLICATIONS

I. THESES

1. CIARLET, P.G.
Variational Methods for Non-Linear Boundary-Value Problems.
Ph.D., Case Institute of Technology, Cleveland, 1966.
2. CIARLET, P.G.
Fonctions de Green Discrètes et Principe du Maximum Discret.
Doctorat d'État, University of Paris VI, 1971.

II. PUBLICATIONS (an asterisk * indicates a book)

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