

# Curriculum vitae

Jean Mawhin

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## 1 Personal

**name** : Jean L. MAWHIN

**born** : December 11, 1942 in Lambermont (now Verviers), Belgium

**married** : October 29, 1966 with Marguerite BELLEFONTAINE

**children** : Marie (October 18, 1967), Valérie (February 18, 1970), Jean N. (April 12, 1975)

**home address** : place Hubert Delrez, 4, B-4802 Verviers, Belgium

## 2 Professional

**professional address** : Université Catholique de Louvain, Département de mathématique, chemin du cyclotron, 2, B-1348 Louvain-la-Neuve, Belgium

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**e-mail** : jean.mawhin@uclouvain.be

## 3 Education

**high school** :

1954-60 : Institut Saint-Michel, Verviers

**university** :

1962 : Candidat en sciences (mathématiques), Université de Liège, la plus grande distinction

1964 : Licencié en sciences (mathématiques), Université de Liège, la plus grande distinction

1964 : Agrégé de l'Enseignement Secondaire Supérieur, Université de Liège, grande distinction

1969 : Docteur en sciences (mathématiques), Université de Liège, la plus grande distinction (10/02)

## 4 Career

1964-65 : Assistant, Université de Liège

1965-66 : Military service (reserve officer)

1966-70 : Assistant, Université de Liège

1969-73 : Maître de conférences (docent), Université de Liège

1970-74 : Chargé de cours (assistant professor), Université Catholique de Louvain

1974-77 : Professeur (associate professor), Université Catholique de Louvain

Since 1977 : Professeur ordinaire (full professor), Université Catholique de Louvain

## 5 Courses and seminars taught at the Université Catholique de Louvain

Calcul différentiel et calcul intégral (1ère partie), 1970-2004

Calcul différentiel et calcul intégral (2ème partie), 1970-2004

Analyse mathématique 1, 2004-07

Analyse mathématique 2, 2004-07

Analyse mathématique 3, 2004-08

Problèmes aux limites pour les équations différentielles ordinaires et aux dérivées partielles, 1973-2007

Problèmes d'analyse fonctionnelle non linéaire, 1973-2008

Méthodologie mathématique II, 1980-81

Approche épistémologique de la mathématique et réflexion critique sur les contenus de programmes, 1994-97

Analyse A, 1996-97

Equations aux dérivées partielles: problèmes d'évolution, 1996-97

Méthodologie mathématique, 1996-99

Equations différentielles ordinaires, 1973-74, 2001-06

Equations aux dérivées partielles : problèmes elliptiques, 2001-06

Projet personnel et séminaire, 2007-08

## 6 Visiting professorships

**Università di Firenze** (Italy) : March-April 1972; April-May 1977

**University of Michigan** (Ann Arbor, USA) : February-March 1973

**Brown University** (Providence, USA) : April 1973

**Universidade de Brasilia** (Brésil) : March-May 1974

**University of Utah** (Salt Lake City, USA) : April-June 1976; April 1993; May 2002

**Université de Paris VI** (France) : April-May 1978; May 1991; May 1998; May-June 2005

**Colorado State University** (Ft Collins, USA) : July 1978; July 1982; August 1986

**Université Louis-Pasteur** (Strasbourg, France) : September 1980, November 1980

**Universität Graz** (Austria) : April 1981

**Université de Sherbrooke** (Québec, Canada) : July 1981

**University of Alberta** (Edmonton, Canada) : June 1984

**Università della Calabria** (Cosenza, Italy) : July 1984

**University of Colorado** (Boulder, USA) : September-December 1986 (**Ulam Chair**)

**Centre de Recherches Mathématiques** (Montréal, Canada) : May 1987

**Università di Roma "La Sapienza"** (Italy) : April 1989  
**Università di Udine** (Italy) : April 1989, April 2000  
**Technische Hochschule Darmstadt** (Germany) : May 1990; April 1991  
**(Humboldt Preisträger)**  
**Universität Karlsruhe** (Germany) : June 1990; March 1991 (**Humboldt Preisträger**)  
**Universität Würzburg** (Germany) : July 1990; July 1991 (**Humboldt Preisträger**)  
**Morningside Center of Mathematics**, Academia Sinica, Beijing (China) : June 1999  
**Rutgers University** (New Brunswick, USA) : October 1999  
**Università di Torino** (Italy) : May 2000  
**University of Queensland** (Brisbane, Australie) : April 2002 (**Ethel Raybould Visiting Fellow**)  
**Università di Trieste** (Italy) : September 2002  
**Ecole des Hautes Etudes en Sciences Sociales** (Paris) : Janvier 2006  
**Université Paris 1 Panthéon-Sorbonne** : Janvier 2007  
**Laboratoire de Philosophie et d'Histoire des Sciences – Archives Henri-Poincaré** (Université de Nancy II) : associated member (2001-)

## 7 Series of lectures in other universities

Faculté Européenne Post-Universitaire des Sciences, Gent Universiteit, Belgium, 1967  
 Centre de Recherches Physiques du CNRS, Marseille, France, 1971  
 Université Libre de Bruxelles, Belgium, 1975  
 University of Texas at Arlington, USA, 1976  
 University of Colorado, Boulder, USA, 1976  
 Heriot-Watt University, Edinburgh, United Kingdom, 1976  
**Main Lecturer at the NSF-CBMS Regional Conference** on Topological Degree Methods in Nonlinear Boundary Value Problems, Claremont, USA, 1977  
 Titulaire de la **Chaire Francqui**, Vrije Universiteit Brussel, Belgium, 1979-1980  
**John H. Barret Memorial Lecturer** (3 lectures), University of Tennessee, Knoxville, USA, 1982  
 Méthodes topologiques en analyse non linéaire, 22e session du Séminaire de mathématiques supérieures, Montréal, Canada, 1983 (5 lectures)  
 University of Utah, Salt Lake City, USA, 1983  
 Distinguished Visitor Program, Emory University, Atlanta, USA, 1985  
 Troisième Cycle Romand de Mathématiques, Ecole Polytechnique Fédérale de Lausanne, Suisse, 1985  
 Méthodes variationnelles dans les problèmes non linéaires, 25th session of the Séminaire de Mathématiques Supérieures, Montréal, Canada, 1986, (8 lectures)  
**Ulam Distinguished Visiting Professor of Mathematics**, University of Colorado, Boulder, USA, 1986  
 Distinguished Lecturer Series, University of Delaware, Newark, USA, 1988  
 CIME on Topological Methods in the theory of Ordinary Differential Equations in Finite and Infinite Dimensions (5 lectures), Montecatini, Italy, 1991

**Geoffrey J. Butler Memorial Lecturer** (3 lectures) University of Alberta, Edmonton, Canada, 1992  
 Summer School on Dynamical Systems and Nonlinear Analysis (5 lectures), University of Cape Town, South Africa, 1993  
 Topological Methods in Differential Equations and Inclusions, 33rd session of the Séminaire de Mathématiques Supérieures, Montréal, Canada, 1994, (5 lectures)  
 Workshop on Nonlinear Analysis and Boundary Value Problems for Ordinary Differential Equations, CISM, Udine, Italy, 1995 (3 lectures)  
 Rencontres Mathématiques Ecole Normale Supérieure, Lyon, France, 1998, principal lecturer (3 lectures)  
 Nonlinear Analysis and Differential Equations, Autumn School, Lisbon, Portugal, 1998 (4 lectures)  
 VIGRE Mini-Course on Variational Methods and Nonlinear Partial Differential Equations, Salt Lake City, Utah, 2002 (9 lectures)  
 Fisymat : Programa de doctorado en física y matemáticas, Universidad de Granada, Spain, 2003 (5 lectures)  
 V Turin Fortnight on Nonlinear Analysis, Università di Torino, Italy, 2005 (3 lectures)  
 Centre Alexandre Koyré, Paris, 2006 (5 lectures)  
**Eduard Čech Lecture**, Prague, Czech Academy of Science, 2006  
 Dynamic Math Center, Pusan University, Busan, Korea, Intensive Lecture Program, 2008 (5 lectures)

## 8 Colloquium lectures

**1968** : Université Catholique de Louvain  
**1969** : Université Libre de Bruxelles  
**1970** : Universität des Saarlandes, Université Louis-Pasteur Strasbourg  
**1971** : Ruhr-Universität Bochum  
**1972** : Université de Paris VI, Würzburg Universität  
**1973** : University of Michigan, University of Pittsburgh, Carnegie-Mellon University, Brown University, Rutgers State University, University of Rhode Island, Colorado State University, University of Colorado, University of Utah  
**1974** : Université de Pau, Université de Bordeaux I, Université Paul-Sabatier Toulouse, Universidad de Brasilia, IMPA Rio de Janeiro, Universidad Estadual de Campinas, J.E. Purkyne University Brno, R.W. Technische Hochschule Aachen  
**1975** : Battelle Institute Genève, Université des Sciences et des Techniques de Lille  
**1976** : Colorado State University, University of Colorado, University of Utah, Università di Firenze, Georgia Institute of Technology, University of Southern California, Pomona College Claremont, Bonn Universität  
**1977** : Université Libre de Bruxelles, Università di Firenze, Université de Liège, Università di Bari, Graz Universität  
**1978** : Université de Paris VI, Bonn Universität, Collège de France Paris, Giessen Universität, Memphis State University, Gesamthochschule Paderborn, Universität Bremen  
**1979** : R.W. Technische Hochschule Aachen, Technische Hogesschool Delft

**1980** : Université Louis-Pasteur Strasbourg, Scuola Internazionale Superiore di Studi Avanzati Trieste, Universidad de Madrid, Texas A and M University College Station

**1981** : Brown University Providence, Université des Sciences et des Techniques de Lille, Universität Bremen, University of Cincinnati, Universidad de Granada, Köln Universität, ETH Zürich, Universität Zürich

**1982** : Colorado State University, Société Royale des Sciences de Liège, University of Miami, University of Utah, Università di Firenze, Collège de France Paris, University of South Florida, University of Alabama Tuscaloosa, North Carolina State University, University of Alberta, University of Minnesota, Institut Henri-Poincaré, Heidelberg Universität, Karlsruhe Universität, Technische Hochschule Darmstadt

**1983** : Université Libre de Bruxelles, Technische Hogeschool Delft, University of Bath, Heriot-Watt University Edinburgh, The New University of Ulster, University of Chicago, University of Colorado, Northern Illinois University

**1984** : Würzburg Universität, Università di Firenze, University of Alberta, Technical University of Gdansk, Universität Augsburg, Katholieke Universiteit Nijmegen

**1985** : R.W. Technische Hochschule Aachen, Köln Universität, Beijing University

**1986** : Université Louis-Pasteur Strasbourg, Colorado State University, University of Colorado, University of Utah, Memphis State University, University of South Florida, University of Alabama Tuscaloosa, Centro de Matematica e Aplicações Fundamentais Lisbon, Univerzity Karlovy Prague, University of California Davis, University of California Santa Cruz, Brigham Young University

**1987** : Centro de Matematica e Aplicações Fundamentais Lisbon, Centre de Recherches Mathématiques Montréal, Université de Sherbrooke

**1988** : Würzburg Universität, J.E. Purkyne University Brno, Institut Henri-Poincaré Paris, Université de Sherbrooke, University of Alabama Birmingham, Université d'Ottawa, University College of Wales, Universität Regensburg, University of Oulu

**1989** : Università di Firenze, Académie Royale de Belgique, Universität Stuttgart, Università di Roma "La Sapienza", Università di Pisa, Università di Modena, Università di Trieste, Università di Udine, Centre Universitaire de Luxembourg

**1990** : Würzburg Universität, Georgia Institute of Technology, Institut Henri-Poincaré Paris, Heidelberg Universität, Karlsruhe Universität, Ludwig Universität München, Technische Universität München, Universität Ulm, Università di Udine

**1991** : Eidgenössische Technische Hochschule Zürich, Universität Zürich, Karlsruhe Universität, Collège de France Paris, Universität Tübingen, Centro de Matematica e Aplicações Fundamentais Lisbon

**1992** : University of Warsaw, Nicolas Copernic University Torun, Banach Center Warsaw, Jagellonian University Krakow, Würzburg Universität, Technische Universiteit Delft, Universität Köln, Académie Royale de Belgique

**1993** : Technische Hochschule Darmstadt, University of Wisconsin, University of Utah, Brigham Young University, Utah State University, Universität des Saarlandes, Politecnico di Milano, Università di Udine, Universidad de Granada

**1994** : Collège de France Paris, Groupe de synthèses Louvain-la-Neuve, Insti-

tut Henri-Poincaré Paris, Universidad de Chile Santiago, Facultés Universitaires Namur, Universität Giessen

**1995** : Université Paul Sabatier Toulouse, Università di Pisa, Université de Limoges, Université de Nancy, Universidad de Buenos Ayres, Instituto Argentino de Matemática, Universidad de Chile Santiago, Würzburg Universität, University of Alabama Birmingham, Masaryk University Brno

**1996** : Heidelberg Universität, Université Henri Poincaré de Nancy 1, Università di Perugia, Centre Universitaire de Luxembourg

**1997** : Universidad de Chile Santiago, Università di Torino, Politecno di Milano, ALTAIR Université Libre de Bruxelles

**1998** : Universidad de Lisboa, Ecole des Mines de Nantes, Université de Paris VI, Facultés Universitaires Namur, Université de Paris IX, Universidad de Granada (Opening Lecture of Departamento de Análisis Matemático for the academic year 1998/98), ALTAIR Université Libre de Bruxelles

**1999** : Beijing University; Morningside Center of Mathematics Academia Sinica Beijing; Beijing Institute of Technology; Jagellonian University Kraków; Rutgers University New Brunswick; Princeton University; Institute of Advanced Studies Princeton; ALTAIR Université Libre de Bruxelles

**2000** : Facultés Universitaires de Namur; Università di Udine; Università di Torino; Politecnico di Milano; University of Alabama Birmingham; Università di Firenze; Università di Modena; Masaryk University Brno; Palacky University Olomouc; Università di Palermo; Universidad de Granada

**2001** : Université de Paris-Sud Orsay; Université Paul Sabatier Toulouse; Ecole Polytechnique Fédérale de Lausanne; EMUL Louvain-la-Neuve; Université de Bucarest; Waseda University Tokyo

**2002** : University of Queensland Brisbane; University of Sydney; University of New South Wales; Université de Bucarest; Universidad de Granada; West Bohemian University Plzen; Institute of Mathematics of Czech Academy of Science; Académie Royale de Belgique

**2003** : Université du Travail Mons; Université Paris VI; Bibliothèque de Jette; Université de Rouen; Bibliothèque de Bertrix; Universidad Autonoma de Madrid; Universidad de Granada

**2004** : Johann Gutenberg Universität Mainz; Universidad de Granada; ALTAIR Université Libre de Bruxelles; Centre Alexandre Koyré Paris

**2005** : Forum-IRTS Lorraine Nancy; University of Alabama Birmingham; Université Paris VI; Université de La Rochelle; Università di Trieste

**2006** : FUCAM Mons; Université de La Rochelle; Académie royale de Belgique; Università di Trieste; Universität Köln; ALTAIR Université Libre de Bruxelles; Universidade do Minho (Braga)

**2007** : Institut Henri-Poincaré (Paris); Université Paris VI; New Mexico State University (Las Cruces); Universidade do Aveiro; Université Paul Verlaine Metz

**2008** : Musée des Beaux-Arts Verviers;

## 9 Organization of scientific conferences

**1973**

*Equadiff 73*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer

**1975**

*VIIth International Conference on Nonlinear Oscillations*, East Berlin, East-

Germany, member of the scientific committee  
*NATO Advanced Study Institute on Nonlinear Operators and the Calculus of Variations*, Bruxelles, Belgium, co-organizer

**1976**  
*Summer School on Nonlinear Functional Differential and Volterra Integral Equations*, Louvain-la-Neuve, Belgium, co-organizer

**1977**  
*Journée de Théorie des Points Fixes*, Louvain-la-Neuve, Belgium, organizer

**1978**  
*Questions d'analyse non linéaire liées aux problèmes de Landesman-Lazer*, Bruxelles et Louvain-la-Neuve, Belgium, co-organizer  
*Equadiff 78 (in honour of G. Sansone)*, Firenze, Italy, member of the organizing committee

**1980**  
*Congrès de la Société Mathématique de Belgique*, Louvain-la-Neuve, Belgium, co-organizer  
*Journées sur l'analyse non linéaire et ses applications*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer  
*Ecole d'Automne du CIMPA sur les équations différentielles et la théorie du contrôle*, Strasbourg, France, member of the scientific committee

**1981**  
*Tagung über topologische Methoden in der Nichtlinearen Funktional-analysis, der Nichtlinearen Analysis und der Numerischen Mathematik*, Oberwolfach, West-Germany, co-organizer  
*IX<sup>th</sup> International Conference on Nonlinear Oscillations*, Kiev, USSR, member of the organizing committee

**1982**  
*Journées sur l'analyse non linéaire et ses applications*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer  
*Equadiff 82*, Würzburg, West-Germany, member of the scientific committee

**1983**  
*Journées sur l'analyse non linéaire et ses applications*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer  
*Journées Analyse non linéaire, applications à la mécanique*, Villeneuve d'Ascq, France, member of the scientific committee

**1984**  
*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer  
*25<sup>th</sup> International Astrophysical Colloquium of Liège (Theoretical Problems in Stellar Stability and Oscillations (in honour of P. Ledoux))*, Liège, Belgium, member of the scientific committee  
*X<sup>th</sup> International Conference on Nonlinear Oscillations*, Varna, Bulgaria, member of the scientific committee

**1985**  
*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer  
*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer  
*NATO Advanced Study Institute on Nonlinear Functional Analysis and Fixed Point Theory*, Maratea, Italy, member of the advisory committee

**1986**

*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer

*NATO Advanced Research Workshop on Dynamics of Infinite Dimensional Systems*, Lisbon, Portugal, member of the organizing committee

**1987**

*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer

*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*XI<sup>th</sup> International Conference on Nonlinear Oscillations*, Budapest, Hungary, member of the scientific committee

*Equadiff 87*, Xanthi, Greece, member of the scientific committee

**1988**

*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, Belgium, co-organizer

*XII<sup>th</sup> Summer Symposium in Real Analysis*, Coleraine, Northern Ireland, United Kingdom, member of the scientific committee

**1989**

*Journées d'analyse non linéaire*, Bruxelles and Louvain-la-Neuve, co-organizer

*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*Centennial Workshop on Heun's equation. Theory and Applications*, Schloss Ringberg, West-Germany, member of the international scientific committee

**1990**

*International Conference on Differential Equations and Applications to Biology and Population Dynamics (in honour of K.L. Cooke)*, Claremont, California, USA, member of the scientific advisory committee

*Second College on Variational Problems in Analysis*, ICTP Trieste, Italy, co-director

*Journées d'analyse non linéaire*, Bruxelles et Louvain-la-Neuve, co-organizer

*Incontro Scientifico sui Metodi topologici nella teoria delle equazioni differenziali ordinarie e i sistemi dinamici*, Cortona, Italy, co-organizer

**1991**

*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer

*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*Equadiff 91*, Barcelona, Spain, member of the scientific committee

*Conférence Internationale sur les Équations Différentielles*, Marrakech, Morocco, chairman of the scientific committee

**1992**

*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer

*International Conference on Bifurcations in differentiable dynamics*, Diepenbeek, member of the scientific committee

*Colloque sur le développement des mathématiques entre 1900 et 1950*, Luxembourg, co-organizer

*First World Congress of Nonlinear Analysis*, Tampa, USA, member of the Global Organizing Committee and co-organizer of the session on *Topological and Variational Methods in Nonlinear Boundary Value Problems*

**1993**



*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer  
*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*Equadiff 8*, Bratislava, Slovakia, member of the scientific committee

*XIX<sup>th</sup> International Congress of History of Science*, Zaragoza, co-organizer of the symposium No 1 on *Some aspects of mathematics of the XX<sup>th</sup> century*

#### **1994**

*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer

*International Conference on Differential Equations and Applications to Biology and to Industry*, Claremont, California, member of the Scientific Advisory Committee

*Topological Methods in Differential Equations and Inclusions*, 33<sup>rd</sup> session of the Séminaire de Mathématiques Supérieures, Montréal, Canada, member of the Scientific Committee

*Minisemester on Methods of Critical Point Theory in Nonlinear Problems*, Banach Center, Warsaw, Poland, co-organizer

#### **1995**

*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer

*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*Second International Conference on Differential Equations*, Marrakesh, Morocco, chairman of the scientific committee

#### **1996**

*Journées d'analyse non linéaire*, Bruxelles, Louvain-la-Neuve, co-organizer

*AMS-Benelux Congres of Mathematics*, Antwerpen, co-organizer of the Session *History of Mathematics (XX<sup>th</sup> century)*

*Topological and Variational Methods in Nonlinear Analysis '96*, Banach Center, Warsaw, co-organizer

*Nonlinear Boundary Value Problems: Existence, Multiplicity, Bifurcation and Stability of Solutions*, Granada, co-organizer

*Première Conférence Internationale sur les Mathématiques Appliquées et les Sciences de l'Ingénieur (CIMASI 1996)*, Casablanca, Morocco, member of the scientific committee

#### **1997**

*Tagung über gewöhnliche Differentialgleichungen*, Oberwolfach, West-Germany, co-organizer

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Nonlinear Phenomena in Dynamical Systems and Variational Problems, Methods and Applications*, Whitehorse, Yukon, Canada, member of the organizing committee

*XX<sup>e</sup> Congrès International d'Histoire des Sciences*, Liège, Member of the Local Organizing Committee and Secretary of the Section *Mathematics and Mechanics in the Contemporary Period*

*Asymptotic and Qualitative Methods of Nonlinear Mechanics, ASYM-97*, Kiev, Ukraine, Member of the Scientific Committee

*Equadiff 9*, Brno, Czech republic, Member of the Honorary and Advisory Board  
*Topological, Variational and Singularity Methods in Nonlinear Analysis*, Gdansk, Poland, Member of the Scientific Organizing Board

#### **1998**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*International Conference on Local Differentiable Dynamics and Applications to Bifurcation Theory*, Diepenbeek, co-organizer

*Workshop on Qualitative Theory of Differential Equations*, Brno, Czech Republic, Member of the Honorary and Advisory Board

*Nonlinear Analysis and Differential Equations*, Autumn School, Lisbon, Portugal, Member of the scientific committee

*Deuxième Conférence Internationale de Mathématiques Appliquées et des Sciences de l'Ingénieur (CIMASI 98)*, Casablanca, Member of the scientific committee

#### **1999**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Gewöhnliche Differentialgleichungen : Harmonic, Subharmonic, Homoclinic, and Heteroclinic Solutions*, Oberwolfach, co-organizer

*International Symposium "Reflections on XXth Century Sciences"*, Brussels, vice-president of the Scientific Organizing Committee

*Troisième Université d'Eté Européenne : Histoire et épistémologie dans l'éducation mathématique*, Louvain-la-Neuve and Leuven, member of the local scientific committee

*Equadiff 99, Minisymposium on Nonlinear Functional Analysis*, Berlin, co-organizer

*Second Symposium on Nonlinear Analysis for the centenary of J. Schauder*, Torún, member of the scientific committee

#### **2000**

*Modern Analysis and its Applications (dedicated to M.A. Krasnosel'skii)*, Voronezh, Russia, 2000, member of the program committee

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*International Conference on Nonlinear Analysis and Functional Differential Equations (in honor of A.D. Mishkis)*, Voronezh, Russia, member of the organizing committee

*Journée Henri Poincaré*, Paris, member of the scientific committee

*Troisième Conférence Internationale sur les mathématiques appliquées et les sciences de l'ingénieur (CIMASI 2000)*, Casablanca, member of the scientific committee

#### **2001**

*Gewöhnliche Differentialgleichungen : Spectra and nonlinear problems*, Oberwolfach, co-organizer

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Special Session on Ordinary Differential Equations and Dynamical Systems*, BMS-DMV First Joint Meeting, Liège, co-organizer

*Equadiff 10*, Prague, 2001, member of the advisory board

#### **2002**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Colloque Epistémologie et enseignement des mathématiques en l'honneur de Nicolas Rouche*, Louvain-la-Neuve, member of the organizing and scientific committees

*International Conference on Abstract and Applied Analysis 2002*, Hanoi, Vietnam, member of the advisory committee

*ICM2002 Satellite Conference on Nonlinear Functional Analysis*, Taiyuan (China), member of the academic committee

*Quatrième Conférence Internationale sur les mathématiques appliquées et les*

*sciences de l'ingénieur (CIMASI 2002)*, Casablanca, member of the scientific committee

**2003**

*Vietnam SAMM First International Conference on Nonlinear Analysis and Mechanics of Continuous Media (ICONA-MECOM 2003)*, HoChiMinh City, member of the international advisory board

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Topological and Variational Methods in Nonlinear Analysis TVMNA 2003*, Bedlowo, Poland, member of the scientific committee

*Mini-Workshop Henri Poincaré und die Topologie*, Oberwolfach, co-organizer

*Equadiff 2003*, Diepenbeek, co-organizer

*Equadiff 2003, Minisymposium on Topological and Variational Methods*, Diepenbeek, organizer

**2004**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Nonlinear Analysis – Analyse non linéaire – In honor of Haïm Brezis*, Paris, member of the scientific committee

*Solvay Symposium on Henri Poincaré*, Bruxelles, member of the scientific and organizing committees

*XIV<sup>th</sup> DHS-DLMPS Joint Conference Probability and Physical Reality*, Bruxelles, member of the scientific programm committee

*Solvay Symposium on Time, irreversibility and self-organization, in memoriam Ilya Prigogine*, Bruxelles, member of the organizing committee

**2005**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

**2006**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*Views in Ordinary Differential Equations (in honor of A. Cellina and J. Yorke)*, Aveiro, member of the scientific committee

*Marrakesh World Conference on Differential Equations and Applications*, member of the scientific committee

*Jean Leray International Mathematical Conference on Topological Methods in Nonlinear Problems*, Bedlevo, member of the organizing committee

*Evolution Equations 2006*, Mons, member of the organizing committee

**2007**

*International Conference on Nonlinear Analysis and Engineering Mathematics Today*, Hochimin City, member of the Honorary advisory committee

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

5th Symposium on Nonlinear Analysis, Torun, member of the scientific committee

**2008**

*Journées d'analyse non linéaire*, Bruxelles-Louvain-la-Neuve, co-organizer

*ICDEA 2008 International Conference on Difference Equations and Applications*, Istanbul, member of the scientific committee

*CDDEA Conference on Differential and Difference Equations*, Strecno, member of the program committee

## 10 Invited and plenary lectures at conferences

### 1968

Colloque sur la mécanique non linéaire des systèmes à un nombre fini de degrés de liberté, Leuven, Belgium, invited lecture

### 1969

Colloque du CBRM sur les équations différentielles non linéaires, Mons, Belgium, invited lecture

### 1970

Tagung über gewöhnliche Differentialgleichungen mit Anwendungen, Oberwolfach, West-Germany, invited lecture

Equadiff 70, Marseille, France, invited lecture

### 1972

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

### 1973

CIME on Nonlinear Mechanics, Bressanone, Italy, 1972, invited lecture

Mini-Conference on Differential Equations, Ann Arbor, USA, invited lecture

### 1974

Functional Analysis Club : problèmes non linéaires, Bruxelles, Belgium, invited lecture

Problems in Nonlinear Functional Analysis, Bonn, West-Germany, invited lecture

International Symposium on Dynamical Systems, Providence, USA, invited plenary lecture

International Conference on Differential Equations, Los Angeles, USA, invited lecture

Difford 74 : Summer school on ordinary differential equations, Starà Lesná, Tchechoslovaquia, invited lecture

### 1975

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

VIIth International Conference on Nonlinear Oscillations, East Berlin, East-Germany, invited lecture

### 1976

International Conference on Dynamical Systems, Gainesville, USA, invited lecture

Tagung über nichtlinear Funktionalanalysis und ihre Anwendungen, Oberwolfach, West-Germany, invited lecture

### 1977

NSF-CBMS Regional Conference on Applications of Topological Methods in Ordinary and Partial Differential Equations, Boulder, USA, invited lecture

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

NSF-CBMS Regional Conference on Topological Degree Methods in Nonlinear Boundary Value Problems, Claremont, USA, principal lecturer

Equadiff IV, Praha, Czechoslovaquia, invited lecture

Workshop on Boundary Value Problems for Ordinary Differential Equations and Applications, Trieste, Italy, invited lectures

### 1978

Conference on Ordinary and Partial Differential Equations, Dundee, Scotland, invited lecture

International Conference on Recent Advances in Differential Equations, Trieste, Italy, invited lecture

Tagung über konstruktive Methoden bei nichtlinearen Randwertaufgaben und Nichtlinearen Schwingungen, Oberwolfach, West-Germany, invited lecture

Tagung über Operator-Ungleichungen, Oberwolfach, West-Germany, invited lecture

**1979**

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

Congrès de la société mathématique de Belgique, Bruxelles, Belgium, invited plenary lecture

VI Jornadas de Matematicas Hispano-Lusas, Santander, Spain, invited plenary lecture

Workshop on Functional Differential Equations and Nonlinear Semigroups, Retzhof, Austria, invited lecture

Annual Seminar of the Canadian Mathematical Society : Differential Equations and Applications, Toronto, Canada, invited lecture

Colloquium on Qualitative Theory of Differential Equations, Szeged, Hungary, invited plenary lecture

Internationales Christoffel Symposium, Aachen, West-Germany, invited lecture

**1980**

Nonlinear Differential Equations : Invariance, stability and bifurcation, Trento, Italy, invited lecture

International Conference on Nonlinear Phenomena in Mathematical Sciences (in honour of L. Cesari), Arlington, USA, invited lecture

Mathematical System Theory, Warwick, United Kingdom, invited lecture

Ecole d'Automne du CIMPA sur les équations différentielles et la théorie du contrôle, Strasbourg, France, invited lecture

**1981**

International Symposium on Dynamical Systems, Gainesville, USA, invited lecture

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

Euromech Colloquium n. 141, Enschede, Holland, invited lecture

Equadiff V, Bratislava, Czechoslovakia, invited lecture

IXth International Conference on Nonlinear Oscillations, Kiev, USSR, invited closing plenary lecture

**1982**

Conference on Ordinary and Partial Differential Equations, Dundee, Scotland, invited plenary lecture and honorary president of the conference

John H. Barrett Memorial Lectures, Knoxville, USA, principal lecturer

Convegno Internazionale su Analisi non lineare e ottimizzazione (in honour of L. Cesari), Bologna, Italy, invited lecture

Réunion sur les équations aux dérivées partielles et l'analyse fonctionnelle, Hansur-Lesse, Belgium, invited lecture

V Congreso de Ecuaciones Diferenciales y Aplicaciones, Tenerife, Canarie Islands, Spain, invited lecture

**1983**

Nietlineaire differentialvergelijken en mechanica, Gent, Belgium, invited lecture  
Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

American Mathematical Society Sectional Meeting, Special Session on Nonlinear Elliptic and Parabolic Partial Differential Equations, Salt Lake City, USA, invited lecture

Journées Analyse non linéaire, applications à la mécanique, Villeneuve d'Ascq, France, invited plenary lecture

Zehnjährige Lehrstuhlgebäude Prof. Dr. Norman Bazley, Köln, West-Germany, invited lecture

Gregynog Symposium on differential equations, Gregynog, Wales, United Kingdom, invited plenary lecture

Analyse Dag, Delft, Holland, invited lecture

#### **1984**

Topics in General, Geometric and Algebraic Topology, Warsaw, Poland, invited lecture

Theory, Numerics and Applications of Nonlinear Eigenvalue Problems, Oberwolfach, West-Germany, invited lecture

Colloquium on Topological Methods in Boundary Value Problems for Ordinary Differential Equations, Trieste, Italy, invited lecture

Bayerischen Mathematischen Kolloquium, Kulmbach, West-Germany, invited lecture

International Conference on Qualitative Theory of Differential Equations, Edmonton, Canada, invited plenary lecture

Nichtlineare Funktionalanalysis und partielle Differentialgleichungen, Oberwolfach, West-Germany, invited lecture

Xth International Conference on Nonlinear Oscillations, Varna, Bulgaria, invited lecture

#### **1985**

Vith Annual Conference of the Nigerian Mathematical Society, Ile-Ife, Nigeria, invited plenary lecture

NATO Advanced Study Institute on Nonlinear Functional Analysis and Fixed Point Theory, Maratea, Italy, invited lecture

Workshop on Applied Differential Equations, Beijing, China, invited lecture

Second Gregynog Symposium on Differential Equations, Gregynog, United Kingdom, invited lecture

Topological Methods in Differential Equations, Oberwolfach, West-Germany, invited lecture

Equadiff VI, Brno, Czechoslovakia, invited closing plenary lecture

#### **1986**

Mid-South Colloquium in the Mathematical Sciences, Memphis, USA, Distinguished lecture in mathematics

International Conference on Differential Equations and Mathematical Physics, Birmingham, USA, invited plenary lecture

NATO Advanced Research Workshop on Dynamics of Infinite Dimensional Systems, Lisbon, Portugal, invited plenary lecture

Symposium on Ordinary Differential Equations and Related Topics (in honour of J. Kurzweil), Liblice, Czechoslovakia, invited lecture

Oscillation, bifurcation and chaos, Toronto, Canada, plenary lecture

9th Summer Symposium in Real Analysis, Vancouver, Canada, two invited lec-

tures

Seminar in Fixed point theory and its applications, Berkeley, USA, invited lecture

**1987**

Anwendungen der Infinitesimalmathematik, Oberwolfach, West-Germany, invited lecture

Festkolloquium Wolfgang Walter, Karlsruhe, West-Germany, invited lecture

Congrès franco-qubécois d'analyse non linéaire appliquée, Perpignan, France, invited plenary lecture

Third Gregynog Symposium on Differential Equations, Gregynog, United Kingdom, invited plenary lecture

XIth International Conference on Nonlinear Oscillations, Budapest, Hungary, invited lecture

Equadiff 87, Xanthi, Greece, plenary lecture

Ive Rencontre Nationale sur les équations différentielles ordinaires, Alger, Algeria, invited lecture

Coloquio Internacional Anastacio da Cunha, o matematico e o poeta, Lisbon, Portugal, invited lecture

**1988**

College on Variational Problems in Analysis, Trieste, Italy, invited lecture

Aktive Schwingungsdämpfung, Oberwolfach, West-Germany, invited lecture

International Conference on Theory and Applications of Differential Equations, Columbus, Ohio, USA, invited plenary lecture

Problèmes variationnels, Paris, France, invited lecture

10th Dundee Conference on the theory of ordinary and partial differential equations, Dundee, Scotland, invited opening plenary lecture

12th Summer Symposium in Real Analysis (in honour of R.H. Henstock), Coleraine, United Kingdom, invited lecture

**1989**

Journées sur l'étude qualitative des équations différentielles, Marrakech, Morocco, invited lecture

**1990**

International Conference on Differential Equations and Applications to Biology and Population Dynamics (in honour of Ken L. Cooke), Claremont, California, USA, invited plenary lecture

Second College on Variational Problems in Analysis, ICTP Trieste, Italy, invited lecture

International Conference on Differential Equations and Mathematical Physics, Birmingham, Alabama, USA, invited plenary lecture

Conference on Nonlinear Analysis and Partial Differential Equations (in honor of Felix Browder), New Brunswick, New Jersey, USA, invited lecture

Incontro Scientifico sui Metodi topologici nella teoria delle equazioni differenziali ordinarie e i sistemi dinamici, Cortona, Italy, two invited lectures

International Symposium on Functional Differential Equations and Related Topics (in honour of T. Yoshizawa), Kyoto, Japan, invited plenary lecture

September Conference of the Irish Mathematical Society, Dublin, Ireland, invited opening plenary lecture

**1991**

L'enseignement de l'analyse aux débutants, Namur, invited lecture

Tagung über gewöhnliche Differentialgleichungen, Oberwolfach, Germany, in-

vited lecture  
Meeting of the FNRS/NFWO Contact Group on Nonlinear Science, Bruxelles,  
invited lecture  
Research Workshop on Topological and Variational Methods in Analysis, Sher-  
brooke, Canada, invited lecture  
Special Session on Nonlinear Analysis of the Summer Meeting of the Canadian  
Mathematical Society, Sherbrooke, Canada, invited lecture  
Conférence Internationale sur les Equations Différentielles, Marrakech, Morocco,  
invited lecture

**1992**

GAMM Tagung, Leipzig, Germany, invited opening plenary lecture  
Journée sur l'école mathématique française, 1850-1914, Paris, France, invited  
lecture  
Northwest European Analysis Seminar, Saint-Amand-les-Eaux, France, invited  
lecture  
Second Geoffrey J. Butler Memorial Conference on Differential Equations and  
Mathematical Biology, Edmonton, Alberta, Canada, three invited plenary lec-  
tures  
First World Congress of Nonlinear Analysis, Tampa, USA, invited lecture in the  
Poincaré's session  
International Conference on Nonlinear Analysis, Topological and Variational  
Methods, Xalapa, Mexico, invited lecture  
Séance publique de la Classe des Sciences de l'Académie Royale de Belgique,  
Bruxelles, annual lecture

**1993**

Summer School on Dynamical Systems and Nonlinear Analysis, University of  
Cape Town, South Africa, five invited lectures  
North Western European Analysis Seminar, Schloss Dagstuhl, Germany, invited  
lecture  
XIXth International Congress of History of Science, Zaragoza, Symposium n.1  
on Some aspects of mathematics of the XXth century, invited lecture  
International Meeting on Ordinary Differential Equations and its Applications  
(in honor of Conti and Villari), Firenze, opening plenary lecture  
Analyse Dag, TU Delft, invited lecture  
First Belgian-French Meeting on PDE, Han-sur-Lesse, invited lecture

**1994**

Copernic, Galilée et la Belgique, leur réception et leurs historiens, Bruxelles,  
invited lecture  
Belgisch-Niederländisch-Nordrheinwesfälisches Sonderkolloquium, Köln, invited  
lecture  
International Conference on Differential Equations and Applications to Biology  
and to Industry, Claremont, California, invited lecture  
Schauder Memorial Symposium on Nonlinear Differential Equations and Appli-  
cations, Torun and Warsaw, Poland, invited lecture  
Minisemester on Methods of Critical Point Theory in Nonlinear Problems, Ba-  
nach Center, Warsaw, Poland, invited lectures  
Réunion Analyse non standard du Groupe de contact Logique mathématique,  
ISIL, Liège, invited lecture

**1995**

Festkolloquium Hans W. Knobloch, Würzburg, Germany, invited lecture



Second International Conference on Differential Equations, Marrakesh, Morocco, invited plenary lecture

Equadiff 95, Lisbon, Portugal, invited plenary lecture

XIV CEDYA and IV Congreso de Matemática Aplicada, Vic, Spain, invited plenary lecture

#### **1996**

Metodi Topologici e Sistemi Dinamici, Firenze, Italy, invited opening lecture

North West European Analysis Seminar, Glasgow, invited lecture

Topological and Variational Methods in Nonlinear Analysis '96, Banach Center, Warsaw, invited lecture

International Conference on Applied Analysis, Karlovassi, Samos, Greece, keynote invited speaker

Prague Mathematical Conference 1996, Prague, Czech Republic, invited plenary lecture

Topological Methods in Differential Equations and Dynamical Systems, Krakow, Poland, invited plenary lecture

Tagung über Nichtlinear Eigenwertaufgaben, Oberwolfach, Germany, invited lecture

#### **1997**

Third Mississippi State Conference on Differential Equations and Computational Simulations, Mississippi State, USA, invited plenary lecture

Topological Fixed Point Theory and Topological Methods in Nonlinear Analysis, Cortona, Italy, invited plenary lecture

Conférence à la mémoire de Gilles Fournier, Sherbrooke, Canada, invited commemorative lecture

Equadiff 9, Brno, Czech Republic, opening plenary lecture

Tricomi's ideas and contemporary applied mathematics, Roma and Torino, Italy, invited lecture

#### **1998**

IVe Journées Catalanes de Mathématiques Appliquées, Tarragona, Spain, invited lecture

Journées Académiques sur les Nombres, Lille, France, invited lecture

Calculus of Variations and Related Topics, Haifa, Israel, invited lecture

International Conference on Local Differentiable Dynamics and Applications to Bifurcation Theory, Diepenbeek, invited lecture

Second Workshop on Nonlinear Differential Equations, Campinas, Brasil, invited plenary lecture

Développements des mathématiques à la veille de l'année 2000, Luxembourg, invited lecture

#### **1999**

Nonlinear Differential Equations, honoring Professor Alan Lazer, Coral Gables, USA, invited lecture

Fučík Memorial Workshop, Paseky, Czech Republic, invited lecture

International Conference on Differential Equations and Related Topics, Pusan, South Korea, invited lecture

The Second International Conference on Nonlinear Analysis, Tianjin, China, invited plenary lecture

Sixth Colloquium on the Qualitative Theory of Differential Equations, Szeged, Hungary, invited opening plenary lecture

Second Symposium on Nonlinear Analysis for the centenary of J. Schauder,

Torún, invited plenary opening scientific lecture  
Histoire comparée des sciences (groupe de contact FNRS), Bruxelles, invited lecture

**2000**

Mathematics and its role in civilization, Macau, invited plenary lecture  
Variational and topological methods in the study of nonlinear phenomena, Pisa, plenary lecture  
Partial Differential Operators, Torino, invited opening lecture  
Year 2000 International Conference on Dynamical Systems and Differential Equations, Kennesaw, Georgia, USA, invited plenary lecture  
Journée Henri Poincaré, Paris, invited opening lecture  
II Simposio Internacional en Ecuaciones no Lineales y Problemas de Frontera Libre, Buenos Ayres, invited plenary lecture  
Third World Congress of Nonlinear Analysis, Catania, one hour key-note speaker  
Quatrièmes journées des équations aux dérivées partielles, Calais, invited lecture  
Physique et physiologie chez Ernst Mach, Louvain-la-Neuve, invited lecture  
Troisième Conférence Internationale sur les mathématiques appliquées et les sciences de l'ingénieur (CIMASI 2000), Casablanca, invited plenary opening lecture

**2001**

Poincaré et la théorie de la connaissance, Toulouse, invited lecture  
Journée annuelle de la Société mathématique de France : Mathématiques et mathématiciens au XX<sup>e</sup> siècle, Paris, invited lecture  
Variational problems and related topics, Kyoto, invited lecture  
International meeting on the history of differential equations, Lisbon, invited lecture  
Workshop in Nonlinear Differential Equations, Bergamo, plenary closing lecture  
Seconde conférence à la mémoire de Gilles Fournier, Sherbrooke, Québec, invited lecture  
Quasilinear elliptic and parabolic equations and systems, Luminy, France, invited lecture

**2002**

Colloque Epistémologie et enseignement des mathématiques en l'honneur de Nicolas Rouche, Louvain-la-Neuve, invited lecture  
Symposium on Partial Differential Equations to celebrate the Seventy-Fifth Birthday of James Serrin, Perugia, invited lecture  
ICM2002 Satellite Conference on Nonlinear Functional Analysis, Taiyuan (China), plenary lecture  
CDDE 2002 Colloquium on Differential and Difference Equations, Brno, plenary lecture  
Analisi qualitativa di equazioni differenziali ordinarie, Trieste, invited lecture

**2003**

Vietnam SAMM First International Conference on Nonlinear Analysis and Mechanics of Continuous Media (ICONA-MECOM 2003), HoChiMinh City, invited opening lecture  
Homenaje a Jean Mawhin por sus primeros 60 años de Análisis no lineal, Universidad de Sevilla, invited lecture  
Equazioni differenziali ordinarie ed applicazioni, Università di Firenze, invited opening lecture

Constructive Methods for Non-Linear Boundary Value Problems, University of Miskolc, Hungary, invited opening lecture  
Topological and Variational Methods in Nonlinear Analysis TVMNA 2003, Bedlowo, Poland, invited plenary opening lecture  
Mini-Workshop Henri Poincaré und die Topologie, Oberwolfach, invited lecture  
29<sup>e</sup> Congrès de la Société Belge des Professeurs de Mathématiques d'expression française, Forest, invited plenary opening lecture  
Workshop The science of complexity : chimera or reality ? Arcidosso, Italy, invited plenary lecture

#### **2004**

Mathematical Days 2004 of the Finnish Mathematical Society, Oulu, invited plenary lecture  
La face cachée des mathématiques, Centre Pompidou, Paris, invited lecture  
Henri Poincaré 1854-1912, Open University, Milton Keynes, invited lecture  
Fifth European Conference on Elliptic and Parabolic Problems : A Special Tribute to the Work of Haim Brezis, Gaeta, Italy, invited plenary lecture  
Fifth Workshop on Nonlinear Differential Equations, Campinas, Brazil, invited plenary lecture  
Seminario Internacional Complutense : Spectral Theory and Nonlinear Analysis, Madrid, Spain, invited opening lecture  
Conference on Fixed Point Theory and its Applications in honour of Professor Andrzej Granas, Montreal, Canada, invited lecture  
International Conference on Nonlinear Operators, Differential Equations and Applications, Cluj, Romania, invited opening plenary lecture  
Solvay Symposium on Henri Poincaré, Bruxelles, invited opening lecture  
Conference on The History of Differential Equations, Oberwolfach, invited lecture  
Séminaire d'histoire des mathématiques Cologne-Nancy, Köln, invited lecture

#### **2005**

International Symposium on Variational Methods and Nonlinear Differential Equations on the occasion of Antonio Ambrosetti's 60th birthday, Roma, invited lecture  
Luncheon event in honour of the Abel Prize in mathematics, Brussels, invited lecture  
Sixth Conference on Differential Equations and Computational Simulation, Mississippi State, invited plenary lecture  
Conference on Nonlinear Partial Differential Equations and Applications in Honor of James Serrin, Université de Tours, invited lecture  
International Conference on Fixed Point Theory and its Applications in Memory of Jim Dugundji, Bedlovo Mathematical Research and Conference Center, invited plenary lecture  
Workshop on Dynamics, Università di Torino, invited opening lecture  
Seminário Nacional de História da Matemática, 18 Encontro, Universidade de Lisboa, principal invited lecture  
Conference on Mathematics in the Physical Sciences 1650-2000, Oberwolfach, invited lecture

#### **2006**

Progress in Difference Equations 2006, Homburg, invited plenary lecture  
International Conference on Mathematics of Optimization and Decision Making, Pointe-à-Pitre, invited plenary lecture

Journées consacrées au Père Henri Bosmans (1852-1928), Bruxelles, invited opening lecture

Views in Ordinary Differential Equations (in honor of A. Cellina and J. Yorke), Aveiro, invited plenary lecture

Jean Leray International Mathematical Conference on Topological Methods in Nonlinear Problems, Bedlevo, invited opening lecture

Euro XXI - 21st European Conference on Operational Research, Reykjavik, invited lecture in section Nonlinear Boundary Value Problems

Evolution Equations 2006, Mons, invited lecture

#### **2007**

Variational and Topological Methods : Theory, Applications, Numerical Methods and Open Problems, Flagstaff, invited opening plenary lecture

6th Congress of Roumanian Mathematicians, Bucharest, invited lecture

12 th International Conference on Difference Equations and Applications, Lisbon, invited plenary lecture

Equadiff 07, Wien, invited key-note lecture

5th Symposium on Nonlinear Analysis, Toruń, invited opening plenary lecture

Workshop on Differential Equations, Boundary Value Problems and Related Topics, Hejnice, Czech Republic, invited lecture

Recent progress in nonlinear elliptic and parabolic problems and related abstract methods, Banff, Canada, invited lecture

7th MSU-UAB Conference on Differential Equations and Computational Simulations, Birmingham, Alabama, invited opening plenary conference

#### **2008**

International Conference on Nonlinear PDE and Applications, Busan, South Korea, invited opening conference

International Workshop on Partial Differential Equations for the 80<sup>th</sup>-birthday of J. Serrin, Perugia, Italy, invited opening conference

## **11 Contributed papers and participation at conferences**

#### **1967**

IVth International Conference on Nonlinear Oscillations, Praha, Czechoslovakia, participation

#### **1969**

Summer School on Dynamical Systems, Warwick, United Kingdom, participation

Vth International Conference on Nonlinear Oscillations, Kiev, USSR, contributed paper

#### **1970**

International Congress of Mathematicians, Nice, France, participation

#### **1971**

Journées du CBRM, Mons, Belgium, contributed paper

#### **1972**

Equadiff III, Brno, Czechoslovakia, contributed paper

#### **1973**

Equadiff 73, Bruxelles and Louvain-la-Neuve, Belgium, contributed paper

**1976**

Rocky Mountain Section Meeting of the MAA, Durango, USA, participation  
NATO Advanced Study Institute on Boundary Value Problems for Evolution  
Partial Differential Equations, Liège, Belgium, participation

**1978**

Equadiff 78 (in honour of G. Sansone), Firenze, Italy, 1978, contributed paper

**1979**

Colloque de l'Académie Royale de Belgique sur l'apport des progrès mathématiques récents au développement des sciences et des techniques, Bruxelles, Belgium, participation

**1980**

Réunion sur les équations aux dérivées partielles et l'analyse fonctionnelle, Han-sur-Lesse, Belgium, participation

Research Conference of the Warwick Symposium on Dynamical Systems, stability and turbulence, Warwick, United Kingdom, participation

**1981**

Congrès de la société mathématique de Belgique, Gent, Belgium, participation

**1982**

Equadiff 82, Würzburg, West-Germany, participation

**1983**

Congrès de la société mathématique de Belgique, Liège, Belgium, participation  
Workshop on nonlinear analysis and optimization, Louvain-la-Neuve, Belgium, participation

**1984**

Congrès de la société mathématique de Belgique, Bruxelles, Belgium, participation

**1985**

Congrès "Sluse et son temps", Liège, Belgium, participation

**1986**

International Congress of Mathematicians, Berkeley, USA, participation

**1987**

Congrès de la société mathématique de Belgique, Diepenbeek, Belgium, participation

**1989**

Symposium international "Cauchy et le monde mathématique français", Paris, France, participation

Equadiff 7, Praha, Czechoslovakia, contributed paper

**1990**

Centennial Workshop on Heun's equation. Theory and applications, Schloss Ringberg, West Germany, participation

Self-Organization, a scientific paradigm : western and eastern perspectives, Bruxelles, participation

**1991**

Equadiff 91, Barcelona, Spain, participation

Kolloquium der Forschungstipendiaten und Presitträger der Alexander von Humboldt-Stiftung in Belgien, Gent, Belgium, participation

Third International Workshop-Conference on Evolution Equations, Control Theory and Biomathematics, Han-sur-Lesse, Belgium, participation

**1992**

International Conference on bifurcations in differentiable dynamics, Diepenbeek,

Belgium, participation  
 Colloque sur le développement des mathématiques entre 1900 et 1950, Luxembourg, participation  
**1994**  
 Congrès International Henri-Poincaré, Nancy, communication  
**1995**  
 Séminaire d'Histoire des Mathématiques, Nancy, participation  
**1997**  
 XX<sup>e</sup> Congrès International d'Histoire des Sciences, Liège, participation  
**1998**  
 Colloque en l'honneur de Jacques-Louis Lions, Paris, participation  
 Conference on Dynamical Systems and Evolutionary Equations in honor of Jack K. Hale, Lisbon, communication  
**2001**  
 Joint Meeting of the BMS and the DMV, Liège, participation  
**2002**  
 Colloque en l'honneur de Jean Mawhin, Paris, participation  
 Congrès de mathématiques appliquées à la mémoire de Jacques-Louis Lions, Paris, 2002, participation  
**2003**  
 Journée de travail Sciences de l'homme et sciences de la nature, Paris, participation  
**2004**  
 Nonlinear Analysis – Analyse non linéaire – In honor of Haïm Brezis, Paris, participation  
 Solvay Symposium on time, irreversibility and self-organization, in memoriam Ilya Prigogine, Bruxelles, participation  
**2005**  
 IVth International Workshop on Functional Analysis on the occasion of the 65th birthday of Jean Schmets, Esneux, participation  
 28th General Assembly of International Council for Science (ICSU), Suzhou, China, Belgian delegate  
 Jose Anastasio da Cunha : o tempo, os ideas, a obra e ... os ineditos, Braga, Portugal, invited participation

## 12 Editing

### Journals

- **Editor-in-chief** : *Topological Methods in Nonlinear Analysis*
- **Member of the editorial board** :
  - Proceedings of the Royal Society of Edinburgh* (1978-88)
  - Revue d'histoire des mathématiques* (1995-98)
  - Journal of Inequalities and Applications* (1997-2002)
  - Portugaliae Mathematica* (-2004)
  - Nonlinear Analysis, theory, methods and applications*
  - Zeitschrift für Analysis und ihre Anwendungen*
  - Bulletin de la Société Mathématique de Belgique*
  - Journal of the Nigerian Mathematical Society*

*Dynamics Reported*  
*Differential and Integral Equations*  
*Bulletin de la Société Royale des Sciences de Liège*  
*Mathematische Nachrichten*  
*Differential Equations and Dynamical Systems*  
*Journal of Mathematical Analysis and Applications*  
*Discrete and Continuous Dynamical Systems*  
*Dynamics of Continuous, Discrete and Impulsive Systems*  
*Advances in Differential Equations*  
*Transactions of the Russian Academy of Natural Sciences*  
*Electronic Journal of Differential Equations*  
*Communications on Applied Nonlinear Analysis*  
*Communications in Contemporary Mathematics*  
*Philosophia Scientiae*  
*Mathematical Inequalities and Applications*  
*Georgian Mathematical Journal*  
*Abstract and Applied Analysis*  
*Nonlinear Oscillations*  
*Revue des Questions Scientifiques*  
*Advanced Nonlinear Studies*  
*Journal of Fixed Point Theory*  
*European Journal of Mathematics*  
*Boundary Value Problems*  
*Rendiconti dell'Istituto Matematico dell'Università di Trieste*  
*Journal of Difference Equations and Applications*  
*Nonlinear Studies*  
*Rendiconti del Circolo Matematico di Palermo*  
*Bull. Scient. Univ. Polytechn. Bucarest*

## Books

*Progress in Nonlinear Differential Equations and Their Applications*, Birkhäuser  
 : member of the editorial board

## 13 Refereeing

Aequationes Mathematicae, Afrika Matematika, Analysis, Analysis and Applications, Annales de la Faculté des Sciences de Toulouse, Annales de l'Institut Henri Poincaré. Analyse non linéaire, Annales Mathematicae Silesianae, Annales Polonici Mathematici, Annales des Sciences Mathématiques du Québec, Annales de la Société Scientifique de Bruxelles, Annali della Scuola Normale Superiore, Annali di Matematica Pura ed Applicata, Applicable Analysis, Applied Mathematics Letters Arab Journal of Mathematical Sciences, Archiv der Mathematik, Archives Internationales d'Histoire des Sciences, Boletino del Unione Matematica Italiana, Bulletin of the Brazilian Mathematical Society, Bulletin of the Canadian Mathematical Society, Bulletin de la Classe des Sciences de l'Académie Royale de Belgique, Bulletin of the London Mathematical Society,

Calculus of Variations and Partial Differential Equations Canadian Journal of Mathematics, Canadian Mathematical Bulletin, Commentationes Mathematicae Universitatis Carolinae, Comptes Rendus de l'Académie des Sciences de Paris, Computer & Mathematics with Applications, Demonstratio Mathematicae, Glasgow Mathematical Journal, Glasnik Matematički, Historia Mathematica, Hokkaido Mathematical Journal, Houston Journal of Mathematics, Indian Journal of Pure and Applied Mathematics, International Journal of Mathematics and Mathematical sciences, International Journal of Non-linear Mechanics, Israel Journal of Mathematics, Journal für Reine und Angewandte Mathematik, Journal of Applied Analysis, Journal of Computational and Applied Mathematics, Journal of Differential Equations, Journal of Mathematical Analysis and Applications, Journal of Mathematical and Physical Sciences, Journal of the Australian Mathematical Society, Journal of the London Mathematical Society, Letters in Mathematical Physics, Maghreb Mathematical Review, Manuscripta Mathematica, Mathematical and Computer Modelling, Mathematical Proceedings of the Cambridge Philosophical Society, Mathematische Annalen, Mathematische Nachrichten, Mathematische Zeitschrift, Memoirs of the American Mathematical Society, Methods and Applications of Analysis, Monatshefte für Mathematik, Pacific Journal of Mathematics, Physics Letters A Potential Analysis, Proceedings of the American Mathematical Society, Proceedings of the Edinburgh Mathematical Society, Proceedings of the Indian Academy of Science Proceedings of the Irish Academy of Science, Proceedings of the London Mathematical Society, Proceedings of the Royal Society of Edinburgh, Publicaciones Mathematicae Debrecen, Real Analysis Exchange, Rendiconti Circolo Matematico di Palermo, Rendiconti Seminario Matematico Università e Politecnico Torino, Resultate der Mathematik, Results in Mathematics, Rivista di Matematica Pura ed Applicata, Rocky Mountain Journal of Mathematics, Science in China, SIAM Journal of Control and Optimization, SIAM Journal of Mathematical Analysis, Studia Scientia Mathematica Hungarica, Studia Mathematica Transactions of the American Mathematical Society, Zeitschrift für Angewandte Mathematik und Physik

## 14 Consulting

Springer Verlag, Pitman Publishing Ltd, American Mathematical Society, Wiley and Sons, Kluwer Publishing, Gordon and Breach, Oxford University Press, De Boeck Université

## 15 Reviewing

Revue des Questions Scientifiques, Mathematical Reviews, Mededelingen van het Wiskundig Genootschap Nederland, Zentralblatt für Mathematik, SIAM Review, Zeitschrift für Angewandte Mathematik und Physik, Bulletin de la Société Mathématique de Belgique, Bulletin of the American Mathematical Society, Isis, Historia Mathematica



## 16 Ph.D. committees

### 1. University of Louvain

- *Advisor* : Laloux (1974), Willem (1979), Nkashama (1984), Adje (1987), Ermens (1988), Walo Omana (1990), Sami (1992), Pierson-Gorez (1993), Ghabbar (1993), Ben-Naoum (1994), Henrard (1995), De Pauw (1998), Taddei (2001), Bereanu (2006)
- *Member of the committee* : Covaci-Munteanu (1970), Debiève (1971), Muyldermans (1972), Habets (1973), Laloy (1974), Delfosse (1975), Rojo (1975), Temo Beko de Loso (1977), Nyandwi (1980), Mathieu (1980), Haine (1983), Hauchart (1985), Bechlivanidis, Loiseau (1988), Félix (agrégation) (1988), Schneider (1988), Coyette (1989), Tshinanga (1989), Blondel (1992), Munyamare (1993), De Meyer (1993), De Coster (1994), Sépulchre (1994), Troestler (1996), Gilbert (1999), Smets (2000), Gaino (2000), Vanderputten (2000-01), Cherpion (2002), Berck (2004), Bonheure (2004), Centazzo (2004), Van Schaftingen (2005), Sintzoff (2005), Boilley (2005), Roisin (2006), Claessens (2007), Mounihr (2007), Moonens (2008), Ntabuhashe (2008), Federinov (2008), Goblet (2008), Dupont (2008)

### 2. Other universities

- *Advisor* : Fonda (SISSA, Trieste) (1988)
- *Member of the committee* :
  - 1975 : Knolle (Ruhr-Universität Bochum), Strasberg (Université Libre de Bruxelles)
  - 1976 : D'Hondt (Vrije Universiteit Brussel)
  - 1977 : Oussalah (Université de Provence, Marseille), Balbi (Université de Franche-Comté, Besançon), Muldowney (University of Ulster, Coleraine)
  - 1978 : Hetzer (RWT Hochschule Aachen, Habilitation), Mönch (Gesamthochschule Paderborn),
  - 1979 : von Harten (Gesamthochschule Paderborn)
  - 1980 : Vanderbauwhede (Rijksuniversiteit Gent, agrégation), Sergijsels (Université Libre de Bruxelles, agrégation)
  - 1981 : Dubois (Université de Mons), Urlacher (Université Louis-Pasteur, Strasbourg), M. Diener (Université Louis-Pasteur, Strasbourg)
  - 1983 : Ben-Naoum (Université des sciences et des techniques de Lille, 3e cycle)
  - 1986 : Fosset (Université de Mons), Ait (Université de Sherbrooke), Kurdi (Université de Metz)
  - 1987 : Addou (Université Libre de Bruxelles), Anane (Université Libre de Bruxelles)
  - 1988 : Bourlard (Université de Mons), Benkirane (Université Libre de Bruxelles), Mkhalfi (Université de Sherbrooke), Lynch (University College of Wales, Aberystwyth)
  - 1990 : Balsano (SISSA, Trieste), Ornelas (SISSA, Trieste), Musina (SISSA, Trieste), Paderni (SISSA, Trieste), Lupo (SISSA, Trieste), Capietto (SISSA, Trieste), Chiado'Piat (SISSA, Trieste), Staicu (SISSA, Trieste), Terracini (SISSA, Trieste), Stoltz (CUL, Luxembourg, mémoire scientifique)

du stage pédagogique), Néel (Université Paul Sabatier, Toulouse)  
 1991 : Moussaoui (Université Libre de Bruxelles), Ramos (Université de Lisbonne), Blot (Université de Paris IX), Saadi Drissi (Université de Sherbrooke)  
 1992 : Pearson (University College of Wales, Aberystwyth), Cabada (Universidad de Santiago de Compostela)  
 1993 : Cuesta (Université Libre de Bruxelles), Amine (Universidad de Granada), 1994 : N. Sari (Université de Haute-Alsace, Mulhouse), Molina-Meyer (Universidad Autonoma Madrid), Pistoia (Università di Pisa)  
 1995 : Clavier (Université de Metz5), Mrziglod (Universität Köln, habilitation)  
 1996 : Cieutat (Université de Paris 1), Alonso (Universidad de Granada), Borde (Université Blaise-Pascal, Clermont-Ferrand), Molle (Università di Pisa), Stepanov (Scuola Normale Superiore Pisa)  
 1998 : Roca Rodríguez (Universidad de Granada), Lu Jitan (Nanyang Technological University, Singapore), Alif (Université Libre de Bruxelles)  
 1999 : Colacito (Université de Mons-Hainaut)  
 2000 : Robles Perez (Universidad de Granada), Papini (SISSA, Trieste), Azizieh (Université Libre de Bruxelles)  
 2001 : Pellacci (Scuola Normale Superiore Pisa), Cano Casanova (Universidad Complutense Madrid)  
 2002 : Ruiz (Universidad de Granada), Ureña (Universidad de Granada)  
 2003 : Kamgang (Université de Metz)  
 2004 : Mora-Corral (Universidad Complutense Madrid)  
 2006 : Brechenmacher (EHESS Paris), Duca (Universitatea Politehnica Bucarest), Dimi (Université Paul Verlaine Metz)  
 2007 : Nguyen (Université de Paris VI), Ruiz Hidalgo (Universidad de Granada), Sirakov (Universit de Paris VI, Habilitation)

## 17 Administration (University of Louvain)

- **Research Council of the University** : member (1988-93)
- **Faculty of Science** : chairman of the council (1983-89)
- **Interfaculty Institute of Pure and Applied Mathematics** : chairman (1978-81)
- **Department of Mathematics**
  - secretary (1970-75)
  - chairman (1981-83)
  - chairman of the section “pure mathematics” (1978-83)
  - chairman of the section “mathematical analysis and mechanics” (1983-2006)
  - chairman of the board of examiners of the undergraduate section in mathematics and physics (1985-99; 2004-05)
  - chairman of the jury of the PhD in mathematics : (2004-08)

## 18 Committees

### International

- **Commission on Development and Exchange of the International Mathematical Union** : member (1991-94, 1995-98)
- **International Center for Pure and Applied Mathematics (CIMP-PA-ICPAM)** : president (1997-2001) and member (2001-05) of the Scientific Committee
- **International Federation of Nonlinear Analysts** : member of the Board of Experts (1997-)
- **Centro de Matemática e Aplicações Fundamentais (CMAF) of Lisbon** : member of the Consultative Committee (1997-)
- **Institut Girard Desargues, Université Claude Bernard Lyon 1** : member of the Scientific Committee (1998-)
- **Matematický ústav Akademie věd ČR Praha** : member of the International Advisory Board (2004-)
- **SISSA, Trieste** : member of the International Advisory Board (2005-)
- **European Science Foundation** : member of the Pool of Reviewers (2006-)

### National

- **Belgian National Committee of Mathematics**
  - member (1980-2005), honorary member (2005-), adjoint-secretary (1980-88), secretary (1988-92), vice-president (1992-96), president (1996-2000)
  - Belgian delegate at the Meeting of the International Mathematical Union at Oakland (1986), Luzern (1994), Dresden (1998)
- **Belgian National Committee of Logic, History and Methodology of Science** : associate member (1993-)
- **Belgian Mathematical Society** : member of the Committee (1983-2000)
- **Société Scientifique de Bruxelles** : member of the Council (2000-), vice-president of the Council (2001-02), president of the Council (2002-03)
- **Commission de mathématiques du Fonds National de la Recherche Scientifique (FNRS)** : member (1985-95)
- **Commission de qualification de Mathématique de la Communauté française de Belgique** : member (1992-95)
- **Commission Mathématiques du Fonds de la Formation à la Recherche dans l'Industrie et dans l'Agriculture (FRIA)** : member (1995-2005), president (2001-05)

- **Académie Royale de Belgique** : member of the “Commission de la Biographie Nationale” (1990-), “Comité de Révision de la Biographie Nationale” (1996-), “Commission Nationale du Conseil International des Unions Scientifiques” (1990-2001), “Commission des finances” (1999-2000), “Commission administrative” (1999-2003), “Commission de la bibliothèque” (2000-), “Commission consultative des trois classes” (2001-04), “Committee of the Royal Academies of Science and the Arts of Belgium (RASAB)” (2001-) (president in 2002), “Commission des Anciens Auteurs Belges” (2001-), president of the National Council of Scientific Unions (2002-08), Belgian delegate at the International Council of Science (ICSU) (2002-08)

## 19 Memberships

Société mathématique de Belgique, Société mathématique de France, Société scientifique de Bruxelles, American mathematical society, Society for industrial and applied mathematics, Mathematical Association of America, European Mathematical Society, Association Henri Poincaré pour l’histoire et la philosophie des mathématiques et de la physique modernes, International Federation of Nonlinear Analysts

## 20 Grants

Research grant (Crédit au chercheur) of the Fond National de la Recherche Scientifique (Belgian FNRS) : 1973-2007  
 EC Network Contract ERBCHRXCT94055, 1994 (coordinator)  
 EC-Chili Contract CII\*-CT 93-0323, 1997  
 Research in Pairs (Mathematisches Forschungsinstitut Oberwolfach), 2008

## 21 Consulting for grants and awards

National Science Foundation (USA), Fonds National de la Recherche Scientifique (Belgium), NATO scientific committee, Belgian-American Foundation, Concours des bourses de voyages (Belgium), John Simon Guggenheim memorial foundation (USA), Conseil de recherches en sciences naturelles et en génie (Canada), Frans van Cauwelaert fonds (Belgium), EWR Steacie memorial fund (Canada), International centre for theoretical physics at Trieste (Italy), Australian Academy of Science, Third World Academy of Science (Trieste), Kyoto Prizes, Fonds pour la Formation de Chercheurs et l’Aide à la Recherche (Canada), Grant Agency of the Czechoslovak Academy of Sciences, Dutch National Science Foundation, United States-Israel Binational Science Foundation, Prix Fermat (France), Third World Academy of Science Awards (Trieste), International Science Foundation, Prix des Amis de l’Université de Liège, Australian Research Council, Centre International de Mathématiques Pures et Appliquées (CIMPA, France), Fondation Camille Liégeois (1997-1998), Commission Européenne (1997-1998), Politecnico di Torino (1999), Ministero dell’Università e della Ricerca Scientifica e Tecnologia (Italie), Research Plan Evaluation Commission of the Ministry of Education, Youth and Sports of Czech Republic

## 22 Member of jury for grants and awards

- **Académie Royale de Belgique** : Concours annuel, Prix François Deruyts, Prix Agathon de Potter (mathématiques), Prix Joseph de Keyn, Prix Jacques Deruyts, Prix Auguste Sacré, Prix Eugène Catalan, Prix Charles Lagrange, Prix Théophile De Donder, Prix Adolphe Wetrems, Prix de l'Académie (1996, 2002), Prix de la Fondation Jacques et Yvonne Ochs-Lefebvre (1992-97), Fondation Merghelynck (1999-), Commission de la Fondation de Potter (1999-. chairman 2004-)
- **Société Mathématique de France** : Prix d'Alembert (2000, 2002), Prix d'Alembert des Lycéens (2000), Prix Anatole Decerf (2002)
- **Société Royale des Sciences de Liège** : Prix Godeaux (2000)
- **Belgian-American Educational Foundation** : Alumni Award in Exact Sciences (2008)

## 23 Awards

- **Lauréat du Concours des bourses de voyages** du Ministère de l'Éducation Nationale avec 96/100, 1970
- **Prix des Amis de l'Université de Liège**, 1971
- **Prix Marcel Dehalu** (Institut d'Astrophysique de l'Université de Liège), 1971
- **Prix scientifique Louis Empain**, section mathématiques, 1973
- **Prix Agathon de Potter** (mathématiques) (Académie Royale de Belgique – three years period 1973-75)
- **Vrije Universiteit Brussels Medal**, 1980
- **Prix Auguste Sacré** (Académie Royale de Belgique – six years period 1976-82)
- **Alexander von Humboldt Award** for the scientific cooperation between Belgium and West-Germany (two years period 1990-91)
- **Mathematical Medal of the Union of Czechoslovak Mathematicians and Physicists**, 1990
- **Bernard Bolzano Honorary Medal** of the Czech Academy of Science, 2002

## 24 Fellowships

- **Société Royale des Sciences de Liège** : Elected Corresponding Fellow (1981)
- **Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique** :

- Elected Corresponding Fellow (1986) and Fellow (1992) of the *Classe des Sciences*
- Elected Vice-director of the *Classe des Sciences* for 2001
- Elected Director of the *Classe des Sciences* for 2002
- Elected President of the Académie for 2002
- **Institut Grand-Ducal de Luxembourg** : Elected Honorary Fellow (1992)
- **Russian Academy of Natural Sciences** : Elected Foreign Fellow (1997)
- **Accademia Toscana di Scienze e Lettere “La Colombaria”** : Elected Corresponding Fellow of the class of mathematical, physical and natural sciences (2004)

## 25 Honorary degrees

- **Doctor honoris causa of the University of Bucarest** (Romania), 2002
- **Doctor honoris causa of the Polytechnic University of Bucarest** (Romania), 2006
- **Doctor honoris causa of the University of Granada** (Spain), 2008

## 26 Honorific distinctions

- **Ordre de Léopold** : Officier (14/12/1988), Commandeur (10/2/1995)
- **Ordre de la Couronne** : Grand Officier (5/3/2006)
- **Médaille civique** de première classe (21/11/1995)
- **Honorary Badge for Merit in Development of Science and Economics** from the Russian Academy of Natural Sciences (26/12/1996)

## 27 Honorific manifestations

- **Colloque en l’honneur de Jean Mawhin**, 11-12 mars 2002, Institut Henri Poincaré, Paris
- **Homenaje a Jean Mawhin por sus primeros 60 años de Análisis no lineal**, 4-5 avril 2003, Universidad de Sevilla
- **The First 60 Years of Nonlinear Analysis of Jean Mawhin**, M. Delgado, J. López-Gómez, R. Ortega, A. Suárez ed., World Scientific, Singapore, 2004

## 28 Interviews and press articles

- “Un ancien (1e scientifique 60), professeur à l’Université de Louvain”, Jean Mawhin, *Vert et Vieux*, No. 41, juin 1983
- “A l’origine des sciences, la planète Math”, *Le Soir*, 28/12/1984
- “Le Prix von Humboldt décerné à un Heusytois”, *Le Jour-Le Courrier*, 16/8/1989
- “Mes oncles et mes cousins de Roumanie”, *Ziarul de Duminica*, 14/6/2002
- “Jean Mawhin, Docteur Honoris Causa de l’Université de Bucarest”, *Analele Universitatii Bucuresti, Matematica*, LI (2002), 197-210
- “Fractales attractions”, *Le Vif/L’Express*, 5/7/2002
- “Semences de curieux”, *RTBF 1* (Belgian Radio), 28/3/2004
- “Poincaré, un touche à tout de génie”, *Le Soir*, 9/10/04
- “Poincaré avait devancé Einstein”, *La Libre Belgique*, 14/10/04
- “Un monde économe ?”, *Athena*, 204, octobre 2004, 87-92
- “Sciences sans conscience n’est que ruine de l’âme, oui mais conscience sans science n’est qu’un vilain gros mot”, *Radio Campus (ULB)*, 9/1/07 and 10/1/07
- “El matemático belga, Jean Mawhin”, *Canal 2 Andalucía (TV)*, 26/06/08, 28/06/08 and 02/07/08  
(<http://www.cedecom.es/cedecom-ext/noticia.asp?id=650>)

# Publications

Jean Mawhin

July 9, 2008

## 1 Papers in journals

1. (1) Oscillations en modes normaux de systèmes dynamiques non linéaires à plusieurs degrés de liberté, *Bull. Soc. R. Sci. Liège*, 33 (1964) 540-557
2. (2) Solutions périodiques de systèmes différentiels autonomes non linéaires contenant un paramètre, *Bull. Soc. R. Sci. Liège*, 34 (1965) 610-629
3. (3) Généralisation des théorèmes d'existence de solutions périodiques de systèmes différentiels autonomes non linéaires, *Bull. Soc. R. Sci. Liège*, 34 (1965) 630-645
4. (4) Application directe de la méthode de Cesari à l'étude des solutions périodiques de systèmes différentiels faiblement non linéaires, *Bull. Soc. R. Sci. Liège*, 36 (1967) 193-210
5. (5) Solutions périodiques de systèmes différentiels faiblement non linéaires lorsque la matrice caractéristique de la partie linéaire possède des diviseurs élémentaires non simples, *Bull. Soc. R. Sci. Liège*, 36 (1967) 491-499
6. (6) Familles de solutions périodiques dans les systèmes différentiels faiblement non linéaires, *Bull. Soc. R. Sci. Liège*, 36 (1967) 500-509
7. (9) Degré topologique et solutions périodiques des systèmes différentiels non linéaires, *Bull. Soc. R. Sci. Liège*, 38 (1969) 308-398
8. (10) Une généralisation de théorèmes de J.A. Marlin, *Intern. J. Nonlinear Mech.* 5 (1970) 335-339
9. (13) Etude qualitative des solutions de l'équation différentielle d'Emden-Fowler (with M. LEFRANC), *Bull. Cl. Sci. Acad. R. Belgique* (5) 55 (1969) 763-770
10. (14) Equations intégrales et solutions périodiques des systèmes différentiels non linéaires, *Bull. Cl. Sci. Acad. R. Belgique* (5) 55 (1969) 934-947
11. (15) Existence of periodic solutions for higher-order differential systems that are not of class D, *J. Differential Equations*, 8 (1970) 523-530



12. (16) An extension of a theorem of A.C. Lazer on nonlinear oscillations, *J. Math. Anal. Appl.* , 40 (1972) 20-29
13. (18) Periodic solutions of nonlinear functional differential equations, *J. Differential Equations*, 10 (1971) 240-261
14. (19) Application du degré topologique à l'estimation du nombre des solutions périodiques d'équations différentielles (with C. MUNOZ), *Ann. Mat. Pura Appl.* (4) 96 (1973) 1-19
15. (20) A generalization of Hammerstein operators and applications, *Rapport Sémin. Mat. Appl. Méc. Univ. Louvain* No. 42, 1971, 11 pp.
16. (21) Nonlinear operator equations in vector spaces. I. Reduction theorems to fixed point problems, *Rapport Sémin. Math. Pures Univ. Louvain* No. 14, 1972, 35 pp.
17. (22) Equations non linéaires dans les espaces vectoriels et théorie des points fixes, *Rapport Sémin. Math. Pures Univ. Louvain* No. 15, 1972, 17 pp.
18. (24) Equivalence theorems for nonlinear operator equations and coincidence degree theory for some mappings in locally convex topological vector spaces, *J. Differential Equations*, 12 (1972) 610-636
19. (25) A further invariance property of coincidence degree in convex spaces, *Ann. Soc. Sci. Bruxelles*, 87 (1973) 49-55
20. (26) Boundary value problems for nonlinear second order vector differential equations, *J. Differential Equations*, 16 (1974) 257-269
21. (27) The solvability of some operator equations with a quasibounded nonlinearity, *J. Math. Anal. Appl.*, 45 (1974) 455-467
22. (28) Periodic solutions of some vector retarded functional differential equations, *J. Math. Anal. Appl.*, 45 (1974) 588-603
23. (29) Coincidence degree and periodic solutions of neutral equations (with J.K. HALE) *J. Differential Equations*, 15 (1974) 295-304
24. (31) Coincidence index and multiplicity (with B. LALOUX), *Trans. Amer. Math. Soc.*, 217 (1976) 143-162
25. (32) L'indice de coïncidence et ses propriétés (with B. LALOUX), in *Proc. Conf. Differential Equations and Appl.*, Edit. Acad. R.S. Romania, Bucaresti, 1977, 17-23
26. (33)  $L^2$ -estimates and periodic solutions of some nonlinear differential equations, *Boll. Un. Mat. Ital.*, (4) 10 (1974) 343-354

27. (34) Fredholm mappings and solutions of linear differential equations at singular points, *Ann. Mat. Pura Appl.*, (4) 108 (1976) 329-335
28. (39) Periodic solutions of some perturbed differential equations, *Boll. Un. Mat. Ital.*, (4) 11 (1975) 299-305
29. (40) Periodic solutions of some nonlinear differential equations of higher order (with S. FUČIK), *Casop. pest. mat.* 100 (1975) 276-283
30. (41) Contractive mappings and periodically perturbed conservative systems, *Arch. Math. (Brno)*, 12 (1976) 67-73
31. (42) Functional analysis and boundary value problems, in *Studies in Ordinary Differential Equations*, Hale ed., Math. Ass. Amer., Washington, 1977, 128-168
32. (43) Multiplicity, Leray-Schauder formula and bifurcation (with B. LALOUX), *J. Differential Equations*, 24 (1977) 309-322
33. (45) Solutions périodiques d'équations aux dérivées partielles hyperboliques non linéaires, in *Mélanges Th. Vogel*, Rybak, Janssens and Jessel ed., Presses Univ. Bruxelles, Bruxelles, 1978, 301-315
34. (46) Ordinary differential equations with nonlinear boundary conditions (with R.E. GAINES), *J. Differential Equations*, 26 (1977) 200-222
35. (47) Stable homotopy and ordinary differential equations with nonlinear boundary conditions, *Rocky Mountain J. Math.*, 7 (1977) 417-424
36. (48) Nonlinear boundary value problems for ordinary differential equations : from Schauder theorem to stable homotopy, in *Nonlinear Analysis*, Cesari, Kannan and Weinberger ed., Academic Press, New York, 1978, 145-160
37. (50) Rothe and Altman type coincidence theorems and applications to differential equations (with K. SCHMITT), *Nonlinear Anal.*, 1 (1977) 151-160
38. (51) Landesman-Lazer's type problems for nonlinear equations, *Conf. Sem. Mat. Univ. Bari*, 147 (1977) 1-22
39. (53) Generalized periodic solutions of nonlinear telegraph equations (with S. FUČIK), *Comment. Math. Univ. Carolinae*, 18 (1977) 813-816
40. (54) Generalized periodic solutions of nonlinear telegraph equations (with S. FUČIK), *Nonlinear Anal.*, 2 (1978) 609-617
41. (55) Periodic solutions of ordinary differential equations with one-sided growth restrictions (with W. WALTER), *Proc. R. Soc. Edinburgh*, A 82 (1978) 95-106

42. (58) Compact perturbations of some nonlinear Hammerstein equations (with M. WILLEM), *Riv. Mat. Univ. Parma*, (4) 5 (1979) 199-213
43. (63) Perturbations non linéaires d'opérateurs linéaires à noyau de dimension infinie (with M. WILLEM), *C.R. Acad. Sci. Paris, A* 287 (1978) 319-322
44. (73) Generalized multiple Perron integrals and the Green-Goursat theorem for differentiable vector fields, *Czechoslovak Math. J.*, 31 (106) (1981) 614-632
45. (76) Nonresonance and existence for nonlinear elliptic boundary value problems (with J.R. WARD), *Nonlinear Anal.*, 5 (1981) 677-684
46. (79) Conservative systems of semilinear wave equations with periodic-Dirichlet boundary conditions, *J. Differential Equations*, 42 (1981) 116-128
47. (81) Nonuniform nonresonance conditions at the two first eigenvalues for periodic solutions of forced Liénard and Duffing equations (with J.R. WARD), *Rocky Mountain J. Math.*, 12 (1982) 643-654
48. (82) Periodic solutions of some forced Liénard differential equations at resonance (with J.R. WARD), *Arch. Math. (Basel)*, 41 (1983) 337-351
49. (87) Multiple solutions of the periodic boundary value problem for some forced pendulum-type equations (with M. WILLEM), *J. Differential Equations*, 52 (1984) 264-287
50. (89) Asymptotic nonuniform non-resonance conditions in the periodic-Dirichlet problem for semilinear wave equations (with J.R. WARD), *Ann. Mat. Pura Appl.*,(4) 135 (1983) 85-97
51. (90) Asymptotic conditions at the two first eigenvalues for the periodic solutions of Liénard differential equations and an inequality of E. Schmidt, (with C.P. GUPTA), *Z. Anal. Anwendungen*, 3 (1984) 33-42
52. (93) Nonuniform non-resonance conditions in the periodic-Dirichlet problem for semi-linear wave equations with jumping nonlinearities (with J.R. WARD), *J. Nigerian Math. Soc.*, 3 (1984) 41-55
53. (94) Remarks on the preceding paper of Ahmad and Lazer on periodic solutions of second order differential equations, *Boll. Un. Mat. Ital.*,(5) 3A (1984) 229-238
54. (95) Upper and lower solutions and semilinear second order elliptic equations with nonlinear boundary conditions (with K. SCHMITT), *Proc. R. Soc. Edinburgh*, 97A (1984) 199-207. Corrigendum, *Proc. R. Soc. Edinburgh*, 100A (1985) 361

55. (97) Variational methods and semilinear elliptic equations (with J.R. WARD AND M. WILLEM), *Arch. Rat. Mech. Anal.*, 95 (1986) 269-277
56. (98) A Neumann boundary value problem with jumping monotone nonlinearity, *Delft Progress Report*, 10 (1985) 44-52
57. (99) Necessary and sufficient conditions for the solvability of a nonlinear two-point boundary value problem (with J.R. WARD AND M. WILLEM), *Proc. Amer. Math. Soc.*, 93 (1985) 667-674
58. (100) Boundary value problems with nonlinearities having infinite jumps, *Comment. Math. Univ. Carolinae*, 25 (1984) 401-414
59. (101) On periodic solutions of forced pendulum-like equations (with G. FOURNIER), *J. Differential Equations*, 68 (1985) 381-395
60. (106) A multiplicity result for periodic solutions of forced nonlinear second order ordinary differential equations (with C. FABRY AND M. NKASHAMA) *Bull. London Math. Soc.*, 18 (1986) 173-180
61. (107) On the generalized Morse lemma (with M. WILLEM), *Bull. Soc. Math. Belgique*, 37B (1985) 23-29
62. (108) Critical points of convex perturbations of some indefinite quadratic forms and semi-linear boundary value problems at resonance (with M. WILLEM), *Ann. Inst. H. Poincaré, Anal. non linéaire*, 3 (1986) 431-453.
63. (109) Nonstandard analysis and generalized Riemann integrals, *Casop. pest. mat.*, 111 (1986) 34-47
64. (116) Finiteness of the set of solutions of some boundary value problems for ordinary differential equations (with L. BRÜLL), *Arch. Math. (Brno)*, 24 (1988) 163-172
65. (117) Generalized Ambrosetti-Prodi conditions for nonlinear two-point boundary value problems (with R. CHIAPPINELLI AND R. NUGARI), *J. Differential Equations*, 69 (1987) 422-434
66. (118) First order ordinary differential equations with several periodic solutions, *Z. Angew. Math. Phys.*, 38 (1987) 257-265
67. (119) The range of some monotone gradient perturbations of self-adjoint operators with finite-dimensional kernel having the unique continuation property (with S.H. DING), *Houston J. Math.*, 15 (1989) 203-214.
68. (120) A multiplicity result for periodic solutions of higher order ordinary differential equations (with S.H. DING), *Differential and Integral Equations*, 1 (1988) 31-39
69. (123) Classical problems in analysis and new integrals, *Real Anal. Exchange*, 12 (1986-87) 69-84

70. (124) Semi-coercive monotone variational problems, *Bull. Cl. Sci. Acad. R. Belgique*, (5) 73 (1987) 118-130
71. (125) Forced second order conservative systems with periodic nonlinearity, *Ann. Inst. H. Poincaré, analyse non linéaire*, special issue dedicated to J.J. Moreau, 6 (1989) suppl., 415-434
72. (130) Landesman-Lazer type problems at an eigenvalue of odd multiplicity (with K. SCHMITT), *Results in Math.*, 14 (1988) 138-146
73. (132) The forced pendulum equation : a paradigm for nonlinear analysis and dynamical systems, *Exposition. Math.*, 6 (1988) 271-287
74. (134) Nonlinear eigenvalue problems with the parameter near resonance (with K. SCHMITT), *Ann. Polon. Math.* 51 (1990), 241-248
75. (135) Quadratic forms, weighted eigenfunctions and boundary value problems for nonlinear second order ordinary differential equations (with A. FONDA), *Proc. R. Soc. Edinburgh*, 112A (1989) 145-153
76. (136) Multiple generalised Riemann integrals on compact intervals and applications, *Real Anal. Exchange*, 14 (1988) 51-59
77. (137) Higher order nonlinear boundary value problems with finitely many solutions (with B. ERMENS), *Bull. Cl. Sci. Acad. R. Belgique*, (5) 75 (1989) 38-48
78. (140) A simple proof of a semi-Fredholm principle for periodically forced systems with homogeneous nonlinearities, *Arch. Math. (Brno)*, 25 (1989), 235-238
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2. (B-2) *Equations différentielles ordinaires. Stabilité et solutions périodiques* (with N. ROUCHE), Masson, Paris, 1973, 266 pp. English translation : *Ordinary differential equations. Stability and periodic solutions*, Pitman, Boston, 1980, 260 pp.
3. (B-3) *Coincidence degree and nonlinear differential equations* (with R.E. GAINES), Springer, Berlin, 1977, 262 pp.
4. (B-4) *Topological degree methods in nonlinear boundary value problems*, Amer. Math. Soc., Providence, R.I., 1979, 122 pp; second printing 1981.
5. (B-5) *Introduction à l'analyse*, Cabay, Louvain-la-Neuve, 1979, 617 pp; deuxième édition refondue et augmentée, Cabay, Louvain-la-Neuve, 1981, 632 pp.; troisième édition revue et augmentée, Cabay, Louvain-la-Neuve, 1983, 633 pp. Second printing 1984.
6. (B-6) *Compacité, monotonie et convexité dans l'étude de problèmes aux limites semi-linéaires*, Séminaires d'analyse moderne de l'université de Sherbrooke , No. 19, Sherbrooke, 1981, 144 pp.
7. (B-7) *Points fixes, points critiques et problèmes aux limites*, Séminaires de mathématiques supérieures, No. 92, Presses Univ. Montréal, Montréal, 1985, 162 pp.
8. (B-8) *Problèmes de Dirichlet variationnels non linéaires*, Séminaires de mathématiques supérieures, No. 104, Presses Univ. Montréal, Montréal, 1987, 168 pp. Polish translation : *Metody wariacyjne dla nieliniowych problemów Dirichleta*, Wydawnictwa Naukowo-Techniczne, Warszawa, 1994
9. (B-9) *Critical point theory and Hamiltonian systems* (with M. WILLEM), Springer, New York, 1989, xiv + 277 pp.

10. (B-10) *Analyse. Fondements, techniques, évolution*, De Boeck Université, Bruxelles, 1992, iv + 808 pp. 2ème édition, De Boeck Université, Paris-Bruxelles, 1997, viii + 808 pp.