



# Thierry De Pauw

## *Curriculum vitæ*

### Career

#### Overview

I was born and grew up in Brussels, Belgium. I did undergraduate studies in mathematics at, and took my PhD from the Université catholique de Louvain in 1998. I was a visiting faculty, and gained international teaching experience in England, France, the United States and China. My scientific work pertains to fundamental mathematics, more specifically to geometry with an analytic flavour. I was awarded the «Jacques Deruyts» prize from the Royal Belgian Academy of Sciences. From 2016 till 2018 I was the head of the team «Géométrie et Dynamique» at the Institut de Mathématiques de Jussieu, Paris. I am currently a Distinguished Professor at East China Normal University.

### Education and employment

- 1993 - 1998 **PhD**, *Université catholique de Louvain*, Belgium  
Advisor : Jean Mawhin
- 1998 - 2000 **EPSRC Research Fellow**, *University College London*, England  
Mentor : David Preiss
- 2001 - 2003 **Marie Curie Fellow**, *Université de Paris Sud*, France  
Mentor : Guy David
- 2002 - 2010 **Research Associate F.N.R.S.**, *Université catholique de Louvain*, Belgium
- 2010 - 2011 **Senior Research Associate F.N.R.S.**, *Université catholique de Louvain*, Belgium
- 2008 - 2013 **Full professor**, *Université Paris Diderot*, France  
Deuxième classe
- 2013 - 2018 **Full professor**, *Université Paris Diderot*, France  
Première Classe
- 2016 - 2018 **Head of team «Géométrie et dynamique»**, *Institut de Mathématiques de Jussieu*, France
- 2018 - present **Distinguished Professor**, *East China Normal University*, Shanghai, China

*School of Mathematical Sciences – East China Normal University*

☎ (+86) 189 1845 2503 • ✉ [thdepauw@math.ecnu.edu.cn](mailto:thdepauw@math.ecnu.edu.cn)

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## Visiting positions

- May 1999 **Visiting Researcher**, *Max Planck Institute*, Leipzig, Germany  
Mentor : Bern Kirchheim
- Spring 2000 **Instructor**, *Rice University*, Texas  
Mentor : Robert Hardt
- Spring 2007 **Visiting Associate Professor**, *Rice University*, Texas
- May 2007 **Visiting Professor**, *Université Joseph Fourier*, Grenoble, France
- Fall 2012 **Visiting Professor**, *University of Fribourg*, Switzerland
- Spring 2015 **Visiting Professor**, *New York University Shanghai*, China
- Spring 2017 **Visiting Professor**, *New York University Shanghai*, China
- Spring 2018 **Visiting Professor**, *New York University Shanghai*, China

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## Awards

- 1988 **Prix Vanhamme (for the most elegant proof) and 4<sup>th</sup> prize**, *Belgian Mathematics Olympiad*
- 1998 **Concours annuel de la Classe des Sciences de l'Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique**, *Belgian Royal Academy of Sciences*  
For an original contribution to the Calculus of Variations
- 2008 **Prix Jacques Deruyts 2004 - 2008**, *Belgian Royal Academy of Sciences*
- 2015 **High End Foreign Expert**, *People's Republic of China*

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## Personal details

- Citizenship Belgian
- Birthdate September 6th, 1971, Etterbeek, Belgium
- Family Divorced, two children aged 11 and 13

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## Language skills

- French Native speaker
- English Fluent
- Chinese Beginner (HSK level 1)
- Dutch Good reading proficiency
- Italian Basic knowledge

## Teaching and mentoring

### Overview

I have taught at undergraduate and graduate levels since 1993, at the Université catholique de Louvain (Belgium), Rice University (Texas), Université Paris Diderot (France), New York University Shanghai and East China Normal University (China). I have given a variety of research level minicourses in different countries. I have mentored two post-doctoral researchers. Five PhD students have graduated under my supervision. Under my impetus as the head of the «Teaching Committee» at the Université Paris Diderot, the first semester course in mathematics has been adapted to our current students. Since my arrival in France 2010 I have participated every year in the «Fête de la science», helping to popularize mathematics with elementary school students and middle school students.

## Undergraduate teaching experience

- 1993 - 1998 **Assistant**, *Université catholique de Louvain*, Belgium  
Teaching problem sessions
- Calculus I, II and III (freshmen and sophomores, economics major)
  - Linear Algebra (freshmen, chemistry and biology major)
  - Multivariable calculus (sophomores, engineering major)
  - Ordinary Differential Equations (juniors, engineering major)
  - Real Analysis (juniors, mathematics major)
  - Topology (juniors, mathematics major)
  - Measure Theory (juniors, mathematics)
- Spring 2000 **Invited lecturer**, *Rice University*, Houston, Texas
- Calculus and its Applications (freshmen, all majors)
  - Introduction to Second Order Linear and Nonlinear Partial Differential Equations (seniors, mathematics and physics)
- 2003 - 2010 **Research Associate**, *Université catholique de Louvain*, Belgium
- Analysis III (juniors, mathematics major)
  - Probability theory (juniors, mathematics major)
  - Special Questions of Mathematics (seniors, mathematics major)
- Spring 2007 **Visiting Associate Professor**, *Rice University*, Houston, Texas
- Calculus of Variations (all levels, mathematics and physics major)
- 2008 - 2018 **Full professor**, *Université Paris Diderot*, Paris, France
- Elementary Analysis and Algebra (freshmen, all majors in science)
  - «S'ouvrir aux mathématiques» (freshmen and sophomores, all majors)
  - Measure Theory (juniors, mathematics major)
  - Topology and Differential Calculus (juniors, mathematics major)

- Hilbert and Fourier Analysis (juniors, mathematics education major)
- Functional Analysis (seniors, mathematics major)
- Spectral Theory (seniors, mathematics major)
- Differential Geometry (seniors, mathematics major)
- Probability Theory (seniors, mathematics major)
- 2015 - 2018 **Visiting Professor**, *New York University Shanghai*, China
  - Multivariable Calculus (freshmen and sophomores, mathematics, economics and business majors)
  - Differential Geometry (seniors, mathematics and physics majors)
- 2018 - now **Distinguished professor**, *East China Normal University*, Shanghai, China
  - Three Classical Problems (juniors, mathematics major)
  - Mathematics Culture (all majors)

## Graduate teaching and minicourses

- 1997 **Regularity of edges in image segmentation**, *Université catholique de Louvain*, Belgium  
Series of 5 lectures
- 1999 **Allard's regularity Theorem**, *Rice University*, Houston, Texas  
Series of 6 lectures
- 2001 **Une introduction aux courants entiers et aux problèmes de Plateau**, *Université de Paris Sud*, Orsay, France  
Series of 7 lectures
- 2008 **Varifolds**, *East China Normal University*, Shanghai, China  
Series of 5 lectures
- 2012 - 2014 **Théorie de la mesure géométrique**, *Université Paris Diderot*, France  
One semester course, «Master 2 de mathématiques fondamentales»
- 2013 - 2014 **Fractalité, lissité et changements d'échelle**, *Ecole Normale Supérieure*, Paris, France  
«Leçons», series of 3 lectures
- 2015 **Introduction to Geometric Measure Theory**, *East China Normal University*, Shanghai, China  
Series of 4 lectures
- 2017 **A brief Introduction to Tame Analysis**, *East China Normal University*, Shanghai, China  
Series of 3 lectures
- 2019 **Quantitative Radon-Nikodym Geometric Theorems**, *Johns Hopkins University*, Baltimore, Maryland  
Series of 4 lectures

- 2019 **Geometry of Sets and Measures in Euclidean Space**, *East China Normal University*, Shanghai, China  
Graduate course
- 2019 **Rectifiable and flat  $G$  chains**, *Beihang University*, Beijing, China  
Summer School 2019 : Geometric Measure Theory and Related Fields

## Mentoring Master 2 students

- 2003 **Thomas Meinguet**, *Université catholique de Louvain*, Belgium
- 2003 **Jordan Goblet**, *Université catholique de Louvain*, Belgium
- 2005 **Laurent Moonens**, *Université catholique de Louvain*, Belgium
- 2009 **Philippe Bouafia**, *Université catholique de Louvain*, Belgium
- 2010 **Alexandra Convent**, *Université catholique de Louvain*, Belgium
- 2012 **Mario Quillas Saavedra**, *Université Paris Diderot*, France
- 2013 **Chiara Rigoni**, *Université Paris Diderot*, France  
Currently a PhD student at SISSA, Italy.
- 2013 **Edoardo Cavallotto**, *Université Paris Diderot*, France  
Currently a PhD student at the Université de Paris Sud, France.
- 2016 **Yiwen Chen**, *Université Paris Diderot*, France  
Currently a PhD student at the University of Warwick, England.

## PhD students

- 2003 - 2008 **Jordan Goblet**, *Multiple valued functions in the sense of F.J. Almgren*,  
*Université catholique de Louvain*  
Currently Data Analyst at BNP Fortis, Brussels, Belgium.
- 2005 - 2008 **Laurent Moonens**, *From Henstock-Kurzweil integral to charges in Euclidean space*,  
*Université catholique de Louvain*  
Currently maître de conférences at the Université Paris Sud.
- 2009 - 2014 **Philippe Bouafia**, *Blow-up analysis of multiple valued stationary functions*,  
*Université catholique de Louvain and Université de Paris Sud*  
Currently at ENSEA, Engineering School, Cergy, France.
- 2014 - 2018 **Ioann Vasilyev**, *Sur l'existence pour le problème de Plateau dans les espaces de Banach de dimension finie*,  
*Université Paris Diderot*  
Currently ATER at the Université de Marne-la-Vallée
- 2015 - 2018 **Antoine Julia**, *Théorème de Stokes et intégration sur les courants entiers*,  
*Université Paris Diderot*  
Currently post-doctoral collaborator at the Università di Padova

## Mentoring of post-doctoral researchers

- 2005 - 2006 **David Pavlica**, *Université catholique de Louvain*

2013 - 2016 **Roger Züst**, *Université Paris Diderot*  
Currently Assistent/Postdoc at the University of Bern.

## Popularizing mathematics

2008 - 2018 **Fête de la science**, *Paris, France*

I have taken active part in popularizing mathematics at elementary school and middle school levels. This involves every year spending several days in schools, usually visiting 3 to 4 classes a day. Typically I first present experiments with soap bubbles and I help the pupils raise scientific questions. This is followed by various workshops adapted to their age. I also take an active part in giving lectures to middle school students who choose to spend their work experience placement at our university

## Research

### Overview

The companion «Research statement» contains a detailed description of my contribution to mathematics. Here I list the conferences I co-organized, the conferences I was invited to, the seminar talks I was invited to give, as well as the journals for which I acted as an anonymous referee.

## Organizing conferences

- 2001 **Geometric Measure Theory**, *Luminy, France*, co-organizer with B. Kirchheim  
Speakers : L. Ambrosio, L. Caffarelli, G. David, R. Hardt, F.-H. Lin, P. Mattila, D. Preiss
- 2012 **Geometric Measure Theory**, *Paris, France*, co-organizer with A. Lemenant and V. Millot  
Speakers : R. Cerf, C. De Lellis, N. Fusco, J. Malý, A. Neves, H. Pajot, D. Preiss, S. Rigot, T. Rivière, N. Wickramasekera
- 2013 **Metric and Variational Structures in Singular Varieties**, *Chambéry, France*, co-organizer with R. Hardt and B. Teissier  
Speakers : C. Bellettini, L. Bos, G. Comte, Th. De Pauw, K. Kurdyka, V. Millot, T. Rivière, B. Teissier

## Conferences

- 1996 **CARTEMI meeting**, Ischia, Italy
- 1998 **CARTEMI meeting**, Ischia, Italy
- 2001 **ICMS meeting «Progress in PDE»**, Edinburgh, Scotland
- 2001 **Prairie Analysis Seminar**, Manhattan, Kansas
- 2002 **Harmonic Analysis and PDEs**, Institut Poincaré, Paris, France
- 2003 **Workshop in Geometric Measure Theory**, Trento, Italy

- 2003 **Analysis and geometric Measure Theory**, Banff, Canada
- 2005 **Calculus of Variations and PDEs**, Hangzhou, China
- 2007 **Analyse des EDPs**, Evian, France
- 2011 **Journées d'Analyse harmonique**, Orsay, France
- 2011 **MSRI Workshop**, Berkeley, California
- 2012 **AIM Workshop**, Palo Alto, California
- 2012 **Geometric Measure Theory**, Potsdam, Germany
- 2012 **Rencontre ANR Geometrya**, Lyon, France
- 2015 **Banach Spaces and Geometric Measure Theory**, Warwick, England
- 2015 **Real Analytic Geometry and Trajectories of Vectorfields**, Luminy, France

## Seminars

- 1997 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 1998 **Colloquium lecture**, *University College London*, London, England
- 1999 **Colloquium lecture**, *University of Aberdeen*, Aberdeen, Scotland
- 2000 **Séminaire d'analyse harmonique**, *Université de Paris Sud*, Orsay, France
- 2000 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 2001 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 2001 **Analysis seminar**, *University of Houston*, Houston, Texas
- 2001 **Séminaire d'analyse**, *Université d'Orléans*, Orléans, France
- 2002 **Colloquium lecture**, *Université catholique de Louvain*, Belgium
- 2002 **Analysis seminar**, *Oxford University*, Oxford, England
- 2005 **Geometric Analysis seminar**, *University of Helsinki*, Helsinki, Finland
- 2005 **Séminaire d'analyse harmonique**, *Université de Paris Sud*, Orsay, France
- 2006 **Analysis seminar**, *Courant Institute*, New York
- 2006 **Nonlinear Analysis and PDEs seminar**, *Rutgers University*, New Jersey
- 2006 **Séminaire de Géométrie et d'Analyse**, *Université de Nice*, Nice, France
- 2006 **Anàlisi seminari**, *Universitat Autònoma de Barcelona*, Barcelona, Spain
- 2006 **Geometric Analysis seminar**, *Freie Universität Berlin*, Berlin, Germany
- 2007 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 2007 **Analysis and PDE seminar**, *University of Kentucky*, Lexington, Kentucky
- 2007 **Séminaire d'Analyse**, *Université Joseph Fourier*, Grenoble, France
- 2007 **PDE seminar**, *Northwestern University*, Evanston, Illinois
- 2007 **Analysis seminar**, *Brown University*, Providence, Rhode Island
- 2007 **Séminaire d'EDP**, *Ecole Normale Supérieure*, Lyon, France

- 2008 **Analysis and Geometry seminar**, *USTC*, Hefei, China
- 2009 **Analysis seminar**, *Purdue University*, West Lafayette, Indiana
- 2011 **Séminaire d'Analyse**, *Université Joseph Fourier*, Grenoble, France
- 2012 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 2013 **Colloquium lecture**, *Université de Fribourg*, Fribourg, Switzerland
- 2013 **CNA seminar**, *Carnegie Mellon University*, Pittsburgh, Pennsylvania
- 2013 **PDE and Analysis seminar**, *University of Pittsburgh*, Pennsylvania
- 2015 **Topics in Analysis and Geometry**, *Max Planck Institute*, Potsdam, Germany
- 2018 **Séminaire de géométrie**, *Université Paris Diderot*, Paris, France
- 2018 **Analysis seminar**, *University of Science and Technology of China*, Hefei, China
- 2019 **Geometry and Analysis seminar**, *Rice University*, Houston, Texas
- 2019 **Colloquium lecture**, *University of Cincinnati*, Cincinnati, Ohio
- 2019 **Analysis seminar**, *Indiana University*, Bloomington, Indiana

## Editorial board

- 2015 - present **Journal of Analysis and its Applications**, *Published by the Europ. Math. Soc.*

## Anonymous referee

**Acta Math.**  
**Adv. Math.**  
**Ann. Inst. Fourier**  
**Ann. of Math.**  
**Acta Sci. Ecole Norm. Sup.**  
**Bull. Belg. Math. Soc. Simon Stevin**  
**Calc. Var. Partial Differential Equations**  
**Comm. Pure Appl. Math.**  
**Duke Math. J.**  
**Illinois Math. J.**  
**Indiana Math. J.**  
**Invent. Math.**  
**J. Funct. Anal.**  
**J. Geom. Anal.**  
**J. London Math. Soc.**  
**J. Math. Anal. Appl.**



**Manuscripta Math.**  
**Math. Ann.**  
**Math. Nachr.**  
**Proc. Amer. Math. Soc.**  
**Publ. Mat.**  
**Real Anal. Exchange**  
**SIAM J. Math. Anal.**

## Service

### Overview

Among other duties for the community I served as the head of the teaching committee and as the head of a hiring committee at the Université Paris Diderot. Of special mention is my past responsibility as the head of «Géométrie et Dynamique» at the «Institut de Mathématiques de Jussieu».

## Member of PhD thesis committee

- 2004 **Gautier Berck**, *Université catholique de Louvain*
- 2005 **Ville Suomala**, *University of Helsinki*, opponent
- 2005 **Jean Van Schaftingen**, *Université catholique de Louvain*
- 2005 **Marc Bernot**, *Ecole Normale Supérieure de Cachan*, rapporteur
- 2007 **Wei Zhu**, *Rice University*
- 2007 **Vincent Feuvrier**, *Université de Paris Sud*, rapporteur
- 2010 **Xiangyu Liang**, *Université de Paris Sud*, rapporteur
- 2011 **Christian Riedweg**, *ETH Zürich*
- 2014 **Vincent Millot**, *(HDR) Université Paris Diderot*
- 2016 **Antoine Lemenant**, *(HDR) Université Paris Diderot*

## Committee work

- 2004 **Member of the committee in charge of creating the curriculum of Master 2 in Mathematics**, *Université catholique de Louvain*
- 2011 **Member of a hiring committee**, *Université Paris Diderot*  
Hiring a «maître de conférences»
- 2012 **Head of the teaching committee**, *Université Paris Diderot*  
Under my impetus the «UFR de mathématiques» redesigned the first course in mathematics for all students in science. Novelties include changes in the curriculum as well as a new organization of the course in small groups of students, integrating the problem sessions within the course itself.
- 2012 **Member of a hiring committee**, *Université Paris Diderot*  
Hiring a «professeur»

- 2012 **Member of the faculty teaching committee, *Université Paris Diderot***
- 2015 - 2018 **Elected member of the Scientific Committee, *Université Paris Diderot***
- 2016 **Head of a hiring committee, *Université Paris Diderot***  
Hiring a «maître de conférences»

## Collective responsibility

2013 - 2016 **Associate Head of the team «Géométrie et Dynamique», Institut de Mathématiques de Jussieu**

2016 - 2018 **Head of the team «Géométrie et Dynamique», Institut de Mathématiques de Jussieu**

«Géométrie et Dynamique» is one of 12 teams that compose the «Institut de Mathématiques de Jussieu». It is made of 19 permanent members and about 20 PhD students. The research topics are manifold and include dynamical systems, minimal surfaces and analysis on varieties, singularity theory and mathematical physics. Since I became the head I established a colloquium meeting that gathers all the team members, on top of the four specialized seminars that operate on a regular basis. I also strengthened the existing support system for our PhD students. A time consuming contribution was to prepare the report for the evaluation by an international committee (HCERES). Routine tasks include managing the financial resources that cover the cost of running our four seminars, a contribution to the cost of conferences organized by our team, academic visits of our members to other institutions, hardware and office supplies.