

CURRICULUM VITAE

ARTIGUE Michèle

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Date and place of birth : 31/08/1946, Bordères sur l'Echez (France), Married, Two children.

Qualifications :

Agrégation of Mathematics : 1969

PHD in Mathematical logics, Université Paris 7, 1972

Doctorat d'Etat es-Sciences, Université Paris 7, 1984

Habilitation à Diriger les Recherches, Université Paris 7, 1987

Positions :

First, student at the Ecole Normale Supérieure de Jeunes Filles in Paris, from 1965 to 1969, then Professeur Agrégé détaché, Maître Assistante and Maître de Conférences at the University Paris 7, from 1969 to 1991. I became Professor in 1991 and moved to the IUFM of Reims, then came back to the University Paris 7, as a First Class Professor in 1999, at the Mathematics Department.

Main recent scientific responsibilities

Director of the IREM (Institut de Recherche sur l'Enseignement des Mathématiques) of the University Paris 7 from 1999 to 2004. Chair of the Department of Mathematics at the IUFM of Reims from 1991 to 1999, member of the Administrative Council and of the Sciences CSE.

Co-director of the Master Didactique Program at the University Paris 7 since 2004.

Vice-président of the ARDM (Association pour la Recherche en Didactique des Mathématiques) from 1993 to 1996.

Member of the CREM (Commission de Réflexion sur l'Enseignement des Mathématiques) since 1999.

Vice-President of ICMI since 1998, and Chair of the ICMI Award Committee since 2002.

Member of the DCSG (Developing Countries Strategic Group) of IMU since 2004.

Member of the Education Advisory Board at the MSRI (Mathematics and Sciences Research Institute) in Berkeley since 2003.

Member of the Advisory Board of the Nordic Graduate School in Mathematics Education since 2003.

Member of the European Network of Excellence Kaleidoscope created in 2004

Current Editorial responsibilities :

Member of the Scientific Committee of the Journal Recherches en Didactique des Mathématiques

Associate Editor of the International Journal for Computers in Mathematics Education

Member of the Editorial Board of the following journals: Educational Studies in Mathematics, Relime (Revista Latino-Americana de Matematica Educativa), Educación Matematica, Quadrante

Research activities

My first research area was mathematical logics : recursivity (theme of my PHD thesis in 1972) and then non standard models for arithmetics. Progressively, these activities moved towards mathematics education (Doctorat d'Etat in 1984, Habilitation in 1987). In this domain, my research first dealt with learning and teaching numbers and geometry at elementary school (1976-1980), then teaching and learning at university level, and especially the didactics of calculus and analysis. For about 20 years, I have also been involved in different research projects on the integration of computer technologies into mathematics education. From a theoretical point of view, I have offered contributions on different topics : didactic engineering, relationships between epistemology and didactics, and more recently the development of an instrumental approach in the didactics of mathematics. This research led to the edition or co-edition of 9 books, 35 articles in journals, 22 contributions to books, and many other publications. I have also supervised 15 PHD and 3 Habilitations, and been invited to give about 40 invited lectures outside France in the last five years.

Teaching activities

From 1970 to 1991, I have taught mathematics to undergraduate students at the Mathematics Department of the University Paris 7. Simultaneously, since 1976, I became more and more engaged

in the activities of the IREM (Institute of Research in Mathematics Education). I have been involved in several experimental projects in this University : creation of experimental courses for first and second year students including strong cooperation between mathematics and physical sciences and multidisciplinary projects (1979-1986), creation of a course in history and didactics of mathematics for four year students in 1988. From 1991 to 1998, being professor at the IUFM (University Institute for Teacher Training) in Reims, in charge of the initial training of secondary mathematics teachers for general and vocational high schools, I developed for this pre-service training specific didactic courses. I also created a specific didactic course for teacher trainers. In 1999, coming back at the University Paris 7, I took the direction of the IREM. Simultaneously, at the mathematics department, I am in charge of the course of mathematical analysis for four year students preparing the national competition for becoming secondary mathematics teachers. Since 1985, I have also been involved in the master and doctorate program in Didactics at the University Paris 7, and I am co-director of this program since 2004.

International collaborations and activities

As most researchers, I have been progressively involved in international cooperation, first through my participation to the affiliated ICMI Study Group : Psychology of Mathematics Education, then through joint projects with foreign universities, through participation to master and doctorate programs in Europe, Latino-America and Nordic Countries, and more recently through the European Network of Excellence Kaleidoscope. In 1998, I became vice-president of ICMI, and this was the beginning of a new and fascinating experience. I learnt a lot from my participation to this structure whose aim is not only to promote the development of educational research in mathematics, but more globally to have all the actors of the mathematical community at large: professional mathematicians, educators and teachers, work together at the improvement of mathematics teaching and learning all around the world, not only in privileged countries as mine. In 2002, I was given the honor to chair the first ICMI Award Committee in charge of selecting the Felix Klein and Hans Freudenthal Awardees. I represent also ICMI at the Developing Country Strategic Group, and work there at a better coordination of ICMI and IMU activities in the developing world.

Selected publications

Artigue M., Isambert E., Perrin M.J., Zalc A. (1978). Some remarks on bicommutability. *Fundamentae Mathematicae*. 345-363.

Artigue M. & Gautheron V. (1983). *Systèmes différentiels. Etude Graphique*. Paris : Cedic – Fernand Nathan.

Artigue M. (1989). Ingénierie didactique. *Recherches en Didactique des Mathématiques*, vol. 9.3., 281-308.

Artigue M. (1990). Epistémologie et didactique. *Recherches en Didactique des Mathématiques*. vol. 10/2.3., 241-286.

Artigue M. (1999). The teaching and learning of mathematics at university level – crucial questions for contemporary research in education, *Notices of the AMS*, 1377-1385.

Artigue M. (2000). Teaching and Learning Calculus : What can be learnt from education research and curricular changes in France ?, *CBMS Issues in Mathematics Education*, vol. 8, 1-15, American Mathematical Society.

Artigue M. (2002). Learning mathematics in a CAS environment: the genesis of a reflection about instrumentation and the dialectics between technical and conceptual work. *International Journal of Computers for Mathematics Learning*, n°7,245-274.

Artigue M. (2002). Ingénierie diactique : quel rôle dans la recherche didactique aujourd'hui ? *Revue Internationale des Sciences de l'Education*, n°8, 59-72.

Artigue M. (2003). Learning and teaching analysis : what can we learn from the past in order to think about the future? In D. Coray & al. (eds), *One Hundred Years of l'Enseignement Mathématique*, 211-223. Genève : L'Enseignement Mathématique.

Artigue M. (2004). Problemas y desafíos en educación matemática: qué nos ofrece hoy la didáctica de la matemática para afrontarlos? *Educación Matemática*, vol. 16, n°3, 5-28.