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### **Post-school qualifications**

Habilitation à diriger des recherches (*Université Paris 7*) (2003)

PhD in mathematics education (*Université Montpellier 2*) (1996)

Agrégation de mathématiques (1992).

### **Positions held**

*French Institute of Education, Ecole Normale Supérieure de Lyon (from 2011)*

*National Institute for Pedagogical Research: Full professor (2005/2010)*

*Université Montpellier 2: Associate professor (1999/2005)*

*High schools in Montpellier: Teacher of Mathematics (1975/1999).*

### **Main leadership and management responsibilities held**

Président of the French Commission on Mathematics Teaching ([CFEM](#))

*IFÉ-ENSL: Head of the department of research (2011-...)*

*INRP: Chair of the department Education and Technology (2007/2011)*

*Université Montpellier 2: director of the IREM - Research Institute on Mathematics Teaching (2000/2005).*

### **Research interests**

My work was previously dedicated to the didactical study of ICT integration in Mathematics Education, considering the interplay between instrumentation and conceptualization processes. From this work I was inspired to study, particularly, the teacher's role, introducing the notion of orchestration to model the didactical management of available artefacts in a classroom. Now my focus is the design of resources and the teacher training required in the process of digitalization. This has led me, in a joint work with Ghislaine Gueudet, to introduce a documentary approach of didactics, considering all the resources involved in the teacher's activity, and analyzing teacher professional development as an interplay between practice, individual and collective, and resources. In this perspective, teacher collective work play an essential role, both for renewing teacher resources and for fostering teacher professional development.

### **Main current/recent projects as principal investigator**

Co-coordinator of a research project [JORISS](#) (Joint Research Institute for Science and Society, ENS de Lyon, ECNU de Shanghai, CNRS) : *Towards a French-Chinese Lab for Comparing Curricula in Science Education (2013-2015)*

Coordinator of the French-Libanes project Cedre DOCENS, aiming to analyse new forms of teacher professional development, particularly of its collective aspects (ENS de Lyon et Libanes University, 2012-2014)

Coordinator of the program of research on Pairform@nce, aiming to conceive a repertoire of online training paths for teachers (INRP-French Ministry, 2009-2011)

Pilot of the French Brazilian CAPES-COFECUB project, aiming to analyze new forms of teachers documentation work (INRP, universities Lyon 1 and Paris 7 in France, universities Bandeirante Sao Paulo and UFPE Recife in Brazil, 2009-2010)

## Major offices in scholarly and professional organisations

*Editorial board of:* Recherches en Didactique des Mathématiques, Education et didactique.

*Selected advisory positions for scientific congresses:*

Member of the advisory board of the AeDeP network ([Associated educational Design Experiment Places](#)), associated to the French Institute of Education

[French National Conference on Mathematics education](#) (Lyon, France, mars 2012)

## Expert advice

Italian National Council of Research

French agency AERES (evaluation of teaching and research teams in universities)

Member of the CNU 26 (National Council of Universities, section of Applied Mathematics, 2008-2011)

## Selected publications

Pepin, B., Gueudet, G., & Trouche, L. (online), [Re-sourcing teachers' work and interactions: a collective perspective on resources, their use and transformation](#), *ZDM, The International Journal on Mathematics Education*

Trouche, L., Drijvers, P., Gueudet, G., & Sacristan, A. I. (2013), Technology-Driven Developments and Policy Implications for Mathematics Education, in A.J. Bishop, M.A. Clements, C. Keitel, J. Kilpatrick, & F.K.S. Leung (eds.), [Third International Handbook of Mathematics Education](#) 753-790, Springer.

Pepin, B., Gueudet, G., & Trouche, L. (2013), [Investigating textbooks as crucial interfaces between culture, policy and teacher curricular practice: two contrasted case studies in France and Norway](#), *ZDM, The International Journal on Mathematics Education*, 45(5), 685-698

Trouche, L. (2012), [Instrumentation in Mathematics Education](#), in S. Lerman (ed.), *Encyclopedia of Mathematics Education*, Springer.

Gueudet, G., Pepin, B., & Trouche, L. (eds.) (2012), [Mathematics Curriculum Material and Teacher Development: from text to 'lived' resources](#), Springer

Gueudet, G., Trouche, L. (dir.) (2010), [Ressources vives. La documentation des professeurs en mathématiques](#), PUR, Rennes and INRP

Maschietto, M., & Trouche, L. (2010), [Mathematics learning and tools from theoretical, historical and practical points of view: the productive notion of mathematics laboratories](#), *ZDM, The International Journal on Mathematics Education* 42(1), 33-47

Gueudet, G., & Trouche, L. (2009), [Towards new documentation systems for mathematics teachers?](#) *Educational Studies in Mathematics*, 71(3), 199-218

Trouche, L. (2004), [Managing the complexity of human/machine interactions in computerized learning environments: guiding students' command process through instrumental orchestrations](#). *International Journal of Computers for Mathematical Learning*, 9, 281-307

Trouche, L. (2000), [La parabole du gaucher et de la casserole à bec verseur, éléments de méthode pour une étude des processus d'apprentissage dans un environnement de calculatrices complexes](#), *Educational Studies in Mathematics*, 41(3), 239-264,

Guin, D., & Trouche, L. (1999), [The Complex Process of Converting Tools into Mathematical Instruments. The Case of Calculators](#), *The International Journal of Computers for Mathematical Learning*, 3(3), 195-227