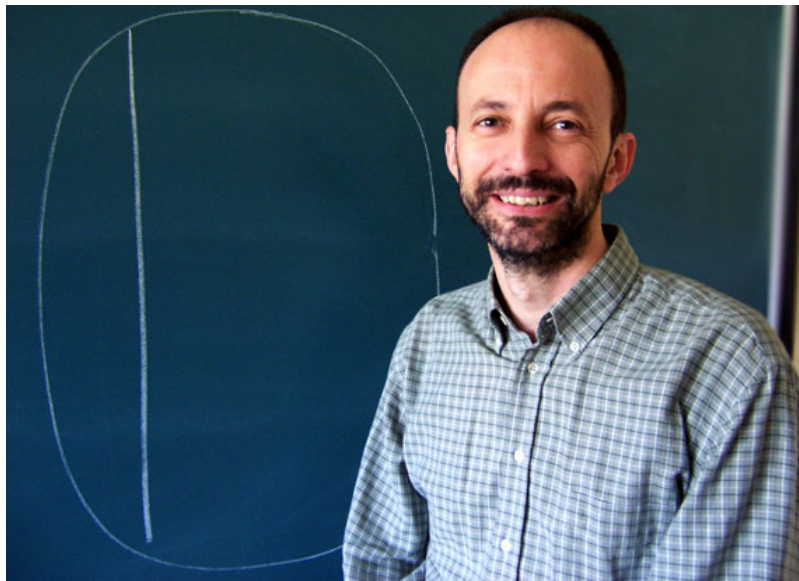


Professor Alberto Elduque

University of Zaragoza, Spain

Visiting Atlantic Algebra Centre

May 3 - 9, 2009



Professor Alberto Elduque received a Ph.D. in 1984 from the University of Zaragoza in Spain, where he is currently Full Professor. He served as Department Chair during 2004-08. He was previously a professor at the Universities of Zaragoza and La Rioja and has held visiting positions at the Universities of Wisconsin-Madison, Metz and Pau (both in France).

His research focuses on Nonassociative Algebras, with a stress on not necessarily unital composition algebras and their interactions with Lie algebras

and superalgebras. He has authored and coauthored more than one hundred papers.

Dr. Elduque has lectured at conferences and seminars in places like Canada, United States, Mexico, Brazil, Chile, France, Germany, Portugal, Korea or Morocco. He has advised six doctoral students, and is an editor of Communications in Algebra and of Journal of Generalized Lie Theory and Applications.

We are looking forward to his mini course at Atlantic Algebra Centre during his visit of Memorial University of Newfoundland, May 3 - 9, 2009.

AAC Mini Course

Composition algebras and their gradings

The goal of this course is the introduction of the basic properties of the classical composition algebras (that is, those algebras which are analogous to the real, complex, quaternion or octonion numbers), and how these basic properties are enough to get all the possible gradings on them. Then a new class of (non unital) composition algebras will be defined and studied, the so called symmetric composition algebras. Finally, the gradings on these two families of composition algebras will be shown to induce some interesting gradings on the exceptional simple Lie algebras.

CONTENTS

1. Unital composition algebras. The Cayley-Dickson process.
2. Symmetric composition algebras. Triality.
3. Gradings on composition algebras.
4. The Magic Square of exceptional Lie algebras. Induced gradings.

Everyone is invited! A limited support is available for the mathematics students in Atlantic Canada. Please provide a recommendation letter from your supervisor. Apply at aac at mun.ca before March 15, 2009.