

The logo for SIMBa, consisting of the text "SIMBa" in a bold, black, serif font on a solid orange rectangular background.

BGSMath
BARCELONA GRADUATE
SCHOOL OF MATHEMATICS

Seminari Informal de Matemàtiques de Barcelona

Speaker: Jose Brox.

University: CMUC, Centre for Mathematics of the University of Coimbra.

Date: Wednesday, February 10th, 2021.

Schedule: 12:00, *virtual coffee break*; 12:20, talk.

Place: Zoom (the link will be posted on our website).

Language: English.

Title: Identities in prime rings

Abstract: Given a ring, a generalized polynomial identity (GPI) is a polynomial identity in which the coefficients can be taken from the ring. Prime rings are a class of rings very well suited to manage problems related to identities, as for example those coming from Herstein's theory, which is the study of nonassociative objects and structures arising from associative rings. After a motivating introduction to prime rings, with some examples from Herstein's theory, I will show the usefulness of Martindale's lemma, the key tool for solving GPIs in one variable in prime rings, and I will explain a new promising approach to solve them based on elementary algebraic geometry which avoids some shortcomings of the lemma, allowing to find the optimal solutions.

About us: *SIMBa* is a youth mathematics seminar organized by graduate students in the Barcelona area. It is aimed towards graduate and last course undergraduate students. Our goals are divulging the knowledge from different branches of mathematics for those interested and promote networking between the attendants.

This seminar is backed by the Faculty of Mathematics and Computer Science at Universitat de Barcelona, Faculty of Mathematics and Statistics at Universitat Politècnica de Catalunya, the Department of Mathematics from Univesitat Autònoma de Barcelona, CRM, IMUB and BGSMath.

Fore more information, visit at www.ub.edu/simba/en/.

If you have any doubt or comment do not hesitate to contact us by sending an email to seminari.simba@gmail.com.