

VI Mini Symposium on Symmetry Methods and Their Applications to Differential Equations

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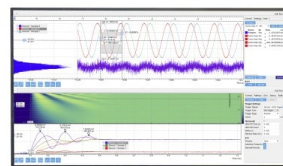
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VI Mini Symposium on Symmetry Methods and their Applications to Differential Equations

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Many physical phenomena in science and engineering are modelled by nonlinear differential equations. There is no doubt that Lie symmetry methods are one of the most effective set of techniques to find exact solutions of such nonlinear differential equations. They have been used by several scientists and applied to various nonlinear models in physics, biology, engineering, economics, etc.

The Lie symmetry methods identify and extend the concept of symmetry, produce an effective method of symmetry applications in difficult situations, give accurate statement of problems and in many cases show a possible way for finding their solutions.

The aim of this mini-symposium is to emphasize the applications of Lie symmetry methods to search for exact solutions of nonlinear models and to show recent progress of theoretic tools in Lie symmetry methods related to the study of nonlinear differential equations.

Maria Santos Bruzón



Maria Santos Bruzón carried out her studies at the University of Seville, Spain. She is a Full Professor of the Department of Mathematics of the University of Cadiz. Her current research interests include group analysis, methods of group transformations: classical symmetries, nonclassical methods, direct methods and conservation laws applied to ordinary differential equations and partial differential equations. The research and collaborations have resulted in a large number of publications, in leading peer-reviewed journals (over 80) as well as congress proceedings and abstracts.

Igor Leite Freire



Igor Leite Freire received his Ph.D from the State University of Campinas (Unicamp) in 2008 and defended his Habilitation thesis on Mathematical Analysis at the University of São Paulo (USP) in 2014. He is an Associate Professor of the Center of Mathematics, Computation and Cognition at the Federal University of ABC, (UFABC). He served as Vice-Provost for Research of his university and was one of the Vice-presidents of the Brazilian Society of Computational and Applied Mathematics (SBMAC). His research interests are on differential equations, mathematical modeling and mathematical physics. He is author of more than 40 papers published in refereed journals and has been serving as reviewer of several respectable journals in the fields of Applied Mathematics and Mathematical Physics.

Maria Luz Gandarias



Company or institution: Faculty of Science, University of Cadiz, Spain

Job title: Full Professor in Applied Mathematics

Biographical sketch:

Maria Luz Gandarias received her PhD degree (Mathematics) from the University of Sevilla Spain. She joined the University of Cádiz in 1974. Presently she is a full professor in the Department of Mathematical of the University of Cádiz, she has supervised 4 PhD and 2 Masters students to date.

Her research interests are in the applications of Lie group methods to differential equations. She has published more than 110 research articles with more than 500 citations, in various international peer-reviewed journals with high impact factors and

has delivered research talks at many international conferences. She is on the Editorial boards of some international journals and has reviewed research papers for more than 20 academic journals.

Chaudry Masood Khalique



Chaudry Masood Khalique received his PhD degrees (Mathematics) from the University of Dundee, Scotland, UK, in 1979 under the guidance of Prof W N Everitt. He is a professor in the Department of Mathematical Sciences and is heading the International Institute for Symmetry Analysis and Mathematical Modelling at North-West University, Mafikeng Campus. He has supervised 8 PhD and 19 Masters students to date, as well as serving as the mentor to 8 postdoctoral fellows.

His research interests are Lie group analysis of differential equations of mathematical physics and finance. He has published more than 220 research articles in various international peer-reviewed research journals with high impact factors and has delivered research talks at many international conferences. He is on the Editorial boards of 10 international journals and has reviewed several research papers for more than 70 academic journals.

He is a Fellow of the Royal Society of South Africa and the Institute of Mathematics and its Applications, UK, and a Member of South African Academy of Sciences, American Mathematical Society, London Mathematical Society, South African Mathematical Society, and Society for Industrial and Applied Mathematics.

<https://scholar.google.co.za/citations?user=4ILEyUYAAAAJ&hl=en>

Mariano Torrisi

Mariano Torrisi received his Laurea degree at University of Catania in 1968. From 1972 to 1983, he was Assistant Professor of Rational Mechanics in the Engineering Faculty of University of Catania and from 1983 to 2001, he was an Associate Professor of Rational Mechanics in the same Faculty at the University of Catania. Successively he has been a Full Professor of Mathematical Physics in the Department of Mathematics and Computer Science of the University of Catania. At present his research interests include population dynamics, debris flows, reactive gasdynamics, wave propagation and methods of group transformations applied to differential equations: classical and non-classical symmetries, equivalence transformations. The results of these researches have been published in peer-reviewed international journals as well as in international conference proceedings. He has been involved in several editorial activities.

Rita Tracinà



Rita Tracinà is Ph.D. in Mathematics. She graduated at Catania University in 1988. From 1989 up to today she is member of the National (Italian) Group of Mathematical Physics. She is currently associated professor of Mathematical Physics in the Department of Mathematics and Computer Science of the University of Catania. Her teaching activities are at the Faculty of Engineering of the University of Catania. Her fields of interest include: Equivalence transformations, Differential invariants of equivalence transformations, Symmetry classifications and exact solutions of PDEs, Nonclassical methods, Conservation laws applied to partial differential equations, Hyperbolic systems and nonlinear wave propagation, Models of semiconductors.