# NITheCS

National Institute for
Theoretical and Computational Sciences

## NITheCS MINI-SCHOOL:
# The algebras of ordinary differential equations

## Prof Peter Leach
### (University of KwaZulu-Natal & Durban University of Technology)

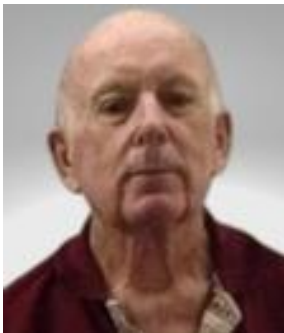### Wed 8, 15, 22 & 29 May 2024  |  14h00-15h00 SAST
### Attend online

--- A certificate of attendance will be awarded to registrants who attend all four lectures ---

## ABSTRACT

If a differential equation is invariant under a transformation, it is said to possess a symmetry.  Equations with more than one symmetry are characterised by the algebra of those symmetries under the operation of taking the Lie Bracket – aka the commutator.  We explore the process of determining such symmetries and the calculation of the Lie Brackets to identify the algebra.

## BIOGRAPHY



Prof Peter Leach earned his PhD from La Trobe University, Australia, and his DSc from the University of Natal. He has held academic positions at several institutions, including the University of the Witwatersrand, University of KwaZulu-Natal, and Durban University of Technology.

Currently, Prof Leach serves as Professor Emeritus at the School of Mathematical and Statistical Sciences at the University of KwaZulu-Natal and as an Honorary Research Professor at the Durban University of Technology.

Prof Leach has supervised over 35 PhD students. With a track record of publishing more than 350 papers, he is recognised as one of the world's most highly cited researchers in Applied Mathematics. For many years, he has consistently been ranked on Stanford University's list of the top 2% of scientists worldwide.

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