Mathematical Physics Seminar

Finding the hidden symmetries of Nature

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Abstract: Twenty years ago David J. Gross presented, at the National Academy of Sciences, a paper entitled "The role of symmetry in fundamental physics", which was later published in PNAS. I shall use that talk as a thread in order to illustrate my recent work related to the following main themes:
(A) going from Classical to Quantum Mechanics by preserving Noether symmetries;
(B) finding hidden linearity of maximally superintegrable systems;
(C) determining Lagrangians (and Noether symmetries) for systems without Lagrangians.
I shall provide several examples for each theme, including models in population dynamics and the Lorenz system in meteorology

Wednesday, February 10, 2016, 4:00 pm
Mathematics and Science Center: W303

Mathematics and Computer Science
Emory University