

Mathematics of the Soccer Ball: Mathematicians Quest to Minimizing Energy

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Abstract

Whether we study charged particles on a sphere, large carbon molecules (fullerenes), orifices of pollen grain, of data encryption algorithms, we model the problem by minimizing energy of spherical configurations (called spherical codes). Our starting point is the most famous spherical code, the Buckyball C-60 molecule, which has a familiar soccer ball design. As we delve deeper in the mathematics of the buckyball-like configurations, we shall derive some remarkable analytic properties as well. In addition, Dr. Dragnev will share his experience at IPFW with the actuarial program. He will talk about the interplay between Actuarial Science and Data Science programs, which is of particular interest for students. In particular, this is manifested by the recent changes in the Associate of the Society of Actuaries (ASA) curriculum with the introduction of the Predictive Analytics sequence (Statistics for Risk Modeling Exam and the Predictive Analytics Module).

Date: Friday, November 10, 2017

Time: 3:00 pm - 4:30 pm

Place: EMAGC 1.302

The talk will be delivered live at the Edinburg campus and will be streamed to the Brownsville campus at BLSHB 1.312. Refreshments will be served at 2:45 pm.