



**Friday, March 18<sup>th</sup>**  
**3:00pm**  
**Kettler Hall, Room 146**

**The Mathematics of the Soccer Ball:  
A Mathematician's Quest to Minimize Energy**

**Abstract:**

*Whether we study electrical charges in equilibrium, orifices of pollen grain, fullerene molecules, the mathematical model consists of minimizing the potential energy of spherical point configurations. I intend to embark on this quest for minimal energy and trace how Nature does it and how we, humans, are trying to understand it.*

**Short Bio:**

Peter Dragnev is a Professor and Chair of the Department of Mathematical Sciences at IPFW and Co-director of the Center for Applied Mathematics and Statistics. He has been part of the department since 1997. He received MS from Sofia University, Bulgaria, and a PhD from the University of South Florida in 1997. He has taught a variety of courses in mathematics from developmental to graduate level, such as honors calculus, linear algebra, differential equations, optimization, number theory, analysis, among others. Dragnev's research is in the area of mathematical analysis, in particular approximation theory and potential theory. He has more than 30 articles and 80 plenary and invited presentations in the USA, Australia, Austria, Belgium, Bulgaria, Canada, China, Germany, Hungary, Portugal, and Turkey. His work has been cited more than 350 times.

He is a 2013 Simons Foundation Collaboration Grant Awardee, 2013 Featured Faculty, 2012 Pippert Sciences Scholar, 2011 COAS Distinguished Speaker, 2002 Sigma Xi Researcher of the Year. He has served two terms as a Purdue Speaker of the IPFW Senate and as a President of IPFW Sigma Xi Chapter, where he is currently a Treasurer. In his free time Peter enjoys jogging and playing his guitar.

*Lecture followed by a wine and cheese reception in the Kettler faculty lounge.*