Dr. Jun-cheng Wei



Department of Mathematics Chinese University of Hong Kong China

Fellow of the Royal Society of Canada, is a Chinese mathematician working in the area of nonlinear partial differential equations. He graduated from University of Minnesota in 1994 and joined the Chinese University of Hong Kong in 1995 after one-year postdoctoral fellowship at SISSA. In 2013 he joined the University of British Columbia as Canada Research Chair Professor. He has over 490 published articles in top journals since 1994. His scholarly work has been cited over 19800 times and he has an H-index of 72. Among his honors, he received a Silver Morningside Medal in 2010, and was an invited speaker at the 2014 International Congress of Mathematicians. In 2020, he was awarded the CMS Jeffery–Williams Prize and Simons Fellow in Mathematics.

Title: Stability of Sobolev Inequalities

Abstract: Sobolev inequalities play fundamental roles in all studies of PDE. In this talk, I will discuss recent results on their stability, both from functional inequalities and critical points. We prove optimal nonlinear quantitative estimates of Struwe's decomposition in higher dimensions, thereby confirming a conjecture of Figalli. I will mention recent advances on harmonic maps, Caffarelli-Kohn-Nirenberg inequalities and degenerate stabilities of Yamabe and Q-metrics.