Bounded Solutions to Some Abstract Non-autonomous Integero-differential Equations

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Abstract:

In this talk we investigate and establish the existence of bounded solutions to some abstract non-autonomous integro-differential equations. Tools utilized to obtain our existence results include evolution families, real interpolation spaces, and exponential dichotomy techniques etc. To illustrate our main results, the existence of bounded solutions to a parabolic Neumann boundary value problem which arises in population genetics and nerve pulse propagation will be discussed.

Brief Biography of Prof. Toka Diagana

Prof. Toka Diagana was born and raised in the Islamic Republic of Mauritania.

He received his PhD in mathematics from the Université Claude Bernard − Lyon 1, France in 1999 and then joined the Howard University Mathematics Department in August 2000 as a faculty. He became a tenured full professor in July 2007. So far, Diagana has directed 8 PhD students. His former students currently serve in the following areas: U. S. Department of Defense, Academia, and Financial Market. His research interests are in evolution equations, operator theory, functional analysis, difference equations, stochastic differential equations, integrodifferential equations, and p-adic spectral theory. He has authored over 140 research articles and 5 books in mathematics three of which were published by Springer. Diagana is the founding editor of the "African Diaspora Journal of Mathematics", "Communications in Mathematics Analysis", and "Journal of Abstract Differential Equations and Applications", the editor-in-chief of "Nonautonomous Dynamical Systems" (De Gruypter), and serves as an associate editor for many other mathematical journals.

Professor Diagana has been a visiting professor in several universities including: University of Paris 1 (France), University of Chile (Chile), Cheikh Anta Diop University of Dakar (Senegal), Cadi Ayyad University in Marakesh (Morocco), Gaston Berger University of Saint Louis (Senegal), University of Abomey-Calavi (Benin), King Fahd University of Petroleum and Minerals (KSA), The African Institue of Mathematical Sciences (Senegal), etc.

Professor Diagana is a recipient of the Mauritanian well-known "Prix Chinguitt". The Prix Chinguitt in sciences is a national prize awarded yearly to reward the merits of either a citizen of Mauritania or of another country for major research achievements in sciences. The prize was awarded to Professor Diagana in December 2006 during an official ceremony in Nouakchott before the President of Mauritania and the diplomatic corps. Diagana is also a recipient of the 2006 Howard University's Emerging Scholar award. In 2011, he received the "Medal of National Recognition" from the President of Mauritania.

In 2009, Professor Diagana was elected as a Fellow of The African Academy of Sciences.

In April 2016, he received the Howard University's "Faculty Excellence Award" for his achievements in research.

He currently serves, since September 1, 2016, as an Adjunct Professor in the Mathematics & Statistics Department of the King Fahd University of Petroleum and Minerals in Dhahran.

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http://tokadiagana.com/