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Department of Mathematics & Statistics
MATHEMATICS COLLOQUIUM
presents

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Tuesday
November 25,
2014

11:00am
GMCS 405

Social prior to talk.

The Beverton-Holt Quantum Difference Equation

Abstract:

The Beverton–Holt model is a classical population model which has been considered in the literature for the discrete-time case. Its continuous-time analogue is the well-known logistic model. In this talk, we consider a quantum calculus analogue of the Beverton–Holt equation. We use a recently introduced concept of periodic functions in quantum calculus in order to study the existence of periodic solutions of the Beverton–Holt q -difference equation. Moreover, we present proofs of quantum calculus versions of two so-called Cushing–Henson conjectures.

[1] *Martin Bohner and Rotchana Chieochan, The Beverton–Holt q -difference equation, J. Biol. Dyn. 7(1), 86–95 (2013).*

[2] *Pokman Cheung and Victor Kac, Quantum Calculus, Springer, 2002.*

[3] *Jim Cushing and Shandelle Henson, A periodically forced Beverton–Holt equation, J. Difference Equ. Appl. 8(12), 1119–1120 (2002).*