

# Advanced Research Initiative



**MATHEMATICS  
& PHYSICS**

**Speaker:** Dr. Martin Bohner  
**Date:** 24 January 2025 at 1:00PM  
**Location:** SH 518  
**Online link:** <https://bit.ly/40GuOv9>  
**Title:** The Beverton–Holt Equation  
**Abstract:**

In this talk, we will present the Beverton–Holt equation as used in fisheries and other population models, in many different scenarios (discrete case, continuous case, time scales case, quantum case, periodic case, with and without harvesting etc.).



## References

- [1] Martin Bohner, Jaqueline Mesquita, and Sabrina Streipert. Generalized periodicity and applications to logistic growth. *Chaos Solitons Fractals*, 186:1–13, Paper No. 115139, 2024.
- [2] Martin Bohner, Tom Cuchta, and Sabrina Streipert. Delay dynamic equations on isolated time scales and the relevance of one-periodic coefficients. *Math. Methods Appl. Sci.*, 45(10):5821–5838, 2022.
- [3] Martin Bohner, Jaqueline Mesquita, and Sabrina Streipert. The Beverton–Holt model on isolated time scales. *Math. Biosci. Eng.*, 19(11):11693–11716, 2022.
- [4] Martin Bohner, Jaqueline Mesquita, and Sabrina Streipert. Periodicity on isolated time scales. *Math. Nachr.*, 295(2):259–280, 2022.
- [5] Martin Bohner, Jaqueline Mesquita, and Sabrina Streipert. The Beverton-Holt model on isolated time scales. *Math. Biosci. Eng.*, 19(11):11693–11716, 2022.
- [6] Martin Bohner and Sabrina Streipert. The second Cushing-Henson conjecture for the Beverton-Holt  $q$ -difference equation. *Opuscula Math.*, 37(6):795–819, 2017.
- [7] Martin Bohner and Sabrina Streipert. Optimal harvesting policy for the Beverton-Holt model. *Math. Biosci. Eng.*, 13(4):673–695, 2016.
- [8] Martin Bohner and Sabrina Streipert. The Beverton-Holt equation with periodic growth rate. *Int. J. Math. Comput.*, 26(4):1–10, 2015.
- [9] Martin Bohner and Rotchana Chieochan. The Beverton-Holt  $q$ -difference equation. *J. Biol. Dyn.*, 7(1):86–95, 2013.
- [10] Martin Bohner and Howard Warth. The Beverton-Holt dynamic equation. *Appl. Anal.*, 86(8):1007–1015, 2007.

# DYNAMIC EQUATIONS