

# Hem Raj Joshi

7830 Jolain Dr  
Cincinnati, OH 45242  
joshi@xavier.edu

## EDUCATION

- Ph.D. in Mathematics**, Advisor: Suzanne Lenhart 2002  
The University of Tennessee, USA  
Dissertation title: “Optimal Control Problems in PDE and ODE systems”
- M. S. in Industrial Mathematics** 1995  
University of Kaiserslautern, Germany
- M. Sc. in Mathematics** 1989  
Garhwal University, India

## WORK EXPERIENCE

- Xavier University, Cincinnati** 8/09-present  
*Associate Professor, Mathematics*
- Xavier University, Cincinnati** 8/03-8/09  
*Assistant Professor, Mathematics*
- University of Tennessee, Knoxville** 1/02-8/03  
*Post Doctoral Research Associate, Department of Mathematics/EEB*
- University of Tennessee, Knoxville** 8/97-2001  
*Graduate Teaching Associate, Department of Mathematics*

**Research Interest:** Optimal control, PDE, ODE, Mathematical Modeling, Mathematical Biology

## RESEARCH PAPERS

1. Joshi, H., Herrera, G., Lenhart, S., and Neubert M., “Optimal Dynamic Harvest of a Mobile Renewable Resource”, *Natural Resource Modeling*, Vol 22(2), 2009, p 322-342.
2. Chakrabarty, S. and Joshi, H., “Optimally Controlled Treatment Strategy Using Inteferon and Ribavirin for Hepatitis C”, *Journal of Biological Sciences(JBS)*, Vol 17(1), 2009, p 97-110.

3. Joshi, H., Lenhart, S., Albright, K., and Gipson, K., "Modeling the Effect of Information Campaign on the HIV Epidemic in Uganda", *Mathematical Biosciences and Engineering*, Vol 5(4) 2008, p 757-770.
4. Joshi, H., Lenhart, S., Lou, H., and , Gaff, H., "Harvesting Control in an Integro-difference Population Model with Concave Growth Term ", *Nonlinear Analysis: Hybrid Systems*, Vol 1(3) 2007, p 417-429.
5. Gaff, H., Joshi, H., and Lenhart, S., "Optimal Harvesting During an Invasion of a Sublethal Plant Pathogen" *Environment and Development Economics*, 12 (2007), p 673-686.
6. Joshi, H. R., Gross, L. J., Lenhart, S., and Salinas, R. "UBM and REU: Unigue Approaches at Tennessee", *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, editor J A Gallian, AMS Publication 2007, p 261-265.
7. Joshi, H. R., Lenhart, S. L., Michael, L. Y., and Wang L., "Optimal Control Methods Applied to Disease Models", *Contemporary Mathematics*, AMS Proceeding, Vol 410 2006, p 187-207.
8. Joshi, H., Lenhart, S., and Gaff, H., "Optimal Harvesting in an Integro-difference Population Model", *Optimal Control Applications and Methods*, Vol 27(2) 2006, p 61-75.
9. Joshi, H., "Optimal Control of the Convective Velocity Coefficient in a Parabolic Problem", *Proceedings of World Congress on Nonlinear Analysis*, 63(2005), p 1383-1390.
10. Joshi, H., Lenhart, L. and Bergounioux, M. "Solving a Crop Problem by an Optimal Control Method", *Natural Resource Modeling*, Vol 18 (3) 2005, p 323-346.
11. Joshi, H. R. and Lenhart, S., "Solving a Parabolic Inverse Problem of Identification Type by Optimal Control Methods", *Houston Journal of Mathematics*, 30(4) 2004, p 1219-1241.
12. Joshi, H. R., "Optimal Control of an HIV Immunology Model," *Optimal Control Applications & Methods* 23 (2002), no. 4, p 199-213.
13. Joshi, H. R., "The Generation of Plank Distributed Particle Sets"- Masters Thesis, University of Kaiserslautern, Germany, 1995.
14. Joshi, H. R., Moell, V., Sonne, C. and Sun, Y. "Log Truck Problem"- Technical Report, University of Kaiserslautern, Germany, 1995.
15. Joshi, H. R., Popkin, L. and Rodrigo, I., "Cooling Water Intake to Power Plant"- Technical Report, University of Kaiserslautern, Germany, 1994.