

**Title:** How do offenders select their targets? Agent Based modeling approach

**Speaker:** Arvind Verma Professor, Criminology, Indiana University Visiting Professor, Center for Criminal Justice Research, IITK

**Abstract:**

Predatory offenders act in a rational manner seeking opportunities to commit their crimes. Criminology theories suggest that they select targets in their awareness space. This space is formed through routine activities, movement patterns and situational factors. There is no empirical method to test the validity of these theories. Agent based modeling provides the means to test the assumptions behind these theories and conduct experiments to understand the selection of specific targets. In this talk I will present the results of testing the validity of Distance Decay Model which is the basis of target selection. Implications for using ABM to test these criminology theories about target selection will be discussed.

**Bio:**

Arvind Verma has been a member in the Indian Police Service [IPS] and has served for many years in the State of Bihar, holding several senior positions in the organization. His first degree was in Engineering Mathematics from the Indian Institute of Technology- Kanpur and later he earned his PhD in Criminology from Simon Fraser University- Canada. His doctoral work was concerned with analysis of criminal justice data using a variety of mathematical techniques such as Fuzzy Logic, Topology and Fractals. He has served as the Managing Editor of Police Practice and Research: An International Journal and he has also been an advisor to the Bureau of Police Research and Development in India. His current research interests are in Policing; Criminal Justice Policy Issues, Indian Police, Research Methods, Mathematical Modeling, and Agent Based Simulation. His recent publications include books titled "Combating Corruption in India [Cambridge Univ. Press]; Policing Muslim Communities: Comparative and International Context" {Springer}; "The New Khaki: The Evolving Nature of Policing in India" {CRC Press}, "Understanding the Police in India" [2nd Edition 2013 Lexus] and Journal articles, "How real is the crime decline in India"; "Policing Non-violent Crowds: Lessons from Kumbh Mela in India"; "Police Manipulation of Crime Reporting: Insider's Revelations"; "Situational Prevention & Elections in India" "Measuring Performance in India: An Application of Data Envelopment Analysis", "The State and Coercive Power in India", "Rationalizing Police Beats using Voronoi Tessellations"; "Validating Distance Decay through Agent Based Modeling" and "Assessing the Role of Police in Containing Mob Violence". His research has been published in several books and as independent chapters too: "India: The Role of Parliament in Police Governance- Lessons Learned from Asia and Europe"; "Politicization and Legitimacy of Police in India"; "The Police and India's Maoist Insurgency"; "It is just not Cricket". His articles have been published in a large number of newspapers and media outlets in India and abroad. His current book projects include "Police Commissioner vs. the DM System: A Comparative Measure of Police Performance"; "How police count crime" and "They Wear Khaki". He is currently on the faculty of the Department of Criminal Justice at Indiana University- Bloomington. He is here at IITK on a visiting position and has established a Center for Criminal Justice Research to promote research and technology applications on Indian police.