

DEPARTMENT OF COMPUTER SCIENCE  
University of Houston

NSF Science Ethics Series

**TITLE:** Can technology enable cities  
to cope with the economic winter?

Dr. Arun Hampapur  
IBM Watson Research



**Sept 21, 2012**

**11:00 A.M.**

**232 PGH**

*Host: Dr. Ioannis Pavlidis*

Several of our cities are facing the worst challenges in generations, with mayors being forced to cut budgets year upon year in an effort to weather the economic winter. While cities are being challenged economically, technologies for better managing cities are emerging from various research centers and technology companies. This talk will preview some of the ongoing work from IBM Watson Research in the area of Smarter Cities. Specifically, the talk will discuss the following questions:

- What kinds of challenges do cities face?
- What kinds of technologies are applicable to these challenges?
- What analytic techniques are used in these solutions?
- How can we measure the business value created by these solutions?

Using several ongoing city projects that leverage advanced predictive modeling, optimization, and data mining technologies, the talk will lead into a discussion on the cost/benefit tradeoffs of “advanced technologies for cities”. The talk will also address ethical issues to be considered when using advanced technologies for cities, such as:

- Should cities invest in new technologies when they are facing such challenges?
- Will efficiencies created by technology displace jobs?
- Does harnessing data from multiple sources, put privacy at risk?

## **About Dr. Arun Hampapur**

Arun Hampapur is an IBM Distinguished Engineer and Director in the Industries Research Team at IBM Watson Research since June 2012. He leads teams focused on the creation of repeatable software solutions and platforms and toolkits in support of IBM’s Smarter Planet initiative, which includes Smarter Cities, and Smarter Commerce Solutions. These solutions heavily leverage predictive analytics, data mining and optimization technologies and deliver value in specific industry contexts.

From 2009 – Jun 2012, Arun had the role of DE and Director in the Business Analytics and Math Sciences Department of IBM Research. In this role Arun led the creation of analytic solutions targeted at multiple industries in support of operations optimization, asset optimization, condition based management, cross agency coordination, safety and security.

Prior to this assignment Arun was on assignment to IBM Global Technology Services from 2008 -2009 as the CTO of Physical Security, where he provided technical direction for development of physical security solutions and services with a focus on smart video surveillance systems. The video analytics and core technology for smart surveillance was originally developed in IBM Research from 2001 to 2006 under Arun’s leadership. Dr. Hampapur managed the Exploratory Computer Vision Group at IBM Research from 2003- 2006 and provided direction for several research activities including Biometrics, Video Analytics, Retail Checkout Analytics and video indexing.

He has published more than 80 papers on various topics related to asset optimization, video analysis, pattern recognition, searchable video and video surveillance and holds 20 US patents and more than 70 patent applications.

Dr. Hampapur is a member of the IBM Academy of Technology, an IBM Master Inventor. Dr. Hampapur obtained his PhD from the University of Michigan in 1995. He is a Fellow of the IEEE (class of 2011).