

## Exploring Crowd Behavior in Large Cities

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**NSF Award:** CAREER: Exploring the Dynamics of Individual Pedestrian and Crowd Behavior in Dense Urban Settings: A Computational Approach (Arizona State University)

**State:** Arizona

**Congressional Districts:** Arizona District 05

**Research Areas:** People & Society

Combining information gathered from cell phones, GPS-enabled devices and traceable consumer products, researchers are developing immersive, realistic crowd-scene models for use in educational and policy-related settings. These models examine independent and collective behavior of people as computer avatars that look and behave with detailed realism.

Improving predictions of individual and crowd behavior could inform various predictive models not easily tested in the real world, including:

- Pedestrian flow along streetscapes in cities
- Crowd behavior in riot conditions
- Mass-exit dynamics during hazardous events

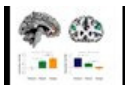
Paul Torrens and graduate students at Arizona State University refined their models by using data from location-based technologies, including hand-held gaming devices, cellular telephones and radio-frequency identity tags on products being carried by shoppers. This information provides snapshots of actual human behaviors that make the computer models more realistic.

This new approach can help improve location-based services and advance the development of automated, computer-generated models of human behavior in urban settings.

### Image



## Recent Award Highlights



### Why Are Resolutions So Hard to Keep? Dieting, Saving, and Self-Control

Brain regions involved in self-control identified and shed light on why some choose short-term gains over long-term gains.

**Research Areas:** People & Society, Biology

**Locations:** Arizona, California, Connecticut, Massachusetts, Pennsylvania, Virginia



### Research Breakthrough on First Modern Humans

Arizona State University researchers have made striking new discoveries about the earliest modern humans, including their ecology, social structures and evolutionary history.

**Research Areas:** People & Society

**Locations:** Arizona