

Hebrew U. Adapts GPS for Crowd Control and Medical Care

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(Israelnationalnews.com) GPS now has a new 'point B,' thanks to a young Hebrew University graduate student who shows it can be used for crowd control, and for keeping medical patients healthy. Michal Isaacson, a doctoral student working with Dr. Noam Shoval of the Geography Department at the Hebrew University, has been involved in developing new approaches for the use of advanced tracking technologies.

Her work has implications for far-reaching medical applications and for understanding the activity of people in urban areas, shopping malls and tourist attractions. The new-styled GPS already has been tested to evaluate crowd activity and flow at the Port Aventura theme park in Spain.

In collaboration with the Hebrew University-Hadassah Medical School's Orthopedic Surgery Unit at Hadassah, a method was developed for detecting the mobility of patients after surgery as an objective measure of their follow-up recovery and well-being. The patients carry a GPS unit with them after the operation, tracking their movements, which are then analyzed.

Future development will integrate additional sensors that will allow the combination of GPS data with physiological data, such as heart rate and blood pressure.



The system Isaacson (pictured) and Shoval have developed also uses GPS technology to record the location of people for a designated period of time. During this period, participants are required to carry a small GPS unit with them. The tracking data is then analyzed using a computerized time/space analysis engine to derive maps that indicate the volumes of activity throughout the location, and charts that indicate how different types of populations spent their time in the location.

Real-time analysis can lead to dynamic management of attractions in a more efficient way, both enlarging the number of people that can visit within a given time frame and controlling their flow in a way that allows for the growth of sales and enlarged revenues.

Isaacson has been named the first prize winner among students in this year's competition for the Kaye Innovation Awards at the Hebrew University. Her work in this field has resulted in a book that she co-authored together with Dr. Shoval and in several articles published in leading geographic journals. The first article she co-authored and that was published in *The Professional Geographer* was noted by the journal as one of the top five most-cited articles in 2006-2007.

The American-based Location Based Intelligence has bought the license for the system from the Hebrew University's Yisum firm and will develop it for medical use.