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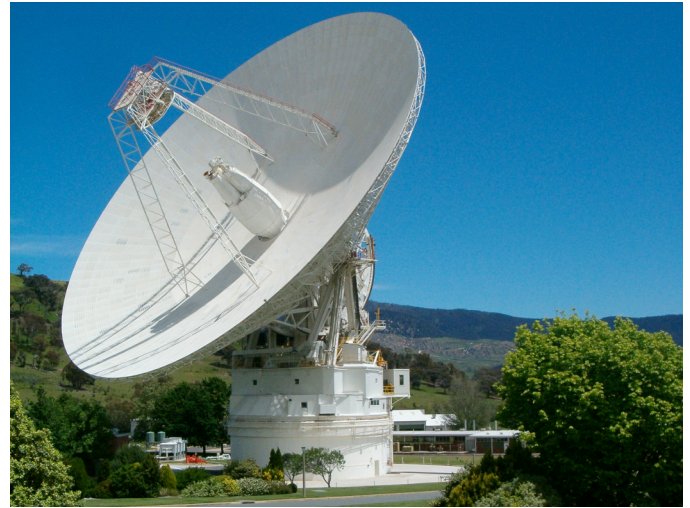
Chester F. Carlson

College of Science

Center for **IMAGING** SCIENCE

Seminar Series

Subpixel Target Detection in Hyperspectral Images



Peter Bajorski, *Associate Professor, Graduate Statistics, RIT*

4pm Wednesday, Feb. 15, 2006

Auditorium of the Center for Imaging Science

Recent results using spatial information for improved target detection will be presented. These were obtained at the Australian National University during a sabbatical in Fall 2005 (thus, kangaroos). In practical target detection, even a relatively small target can be present in two or more adjacent pixels. Also, a relatively large but narrow object may be present in many pixels but be only a small part of each single pixel. In such cases, critical information about the target is spread among many spectra. I will introduce a class of Locally Adaptive Smoothing detectors to address this problem. Other recent work will also be presented including a comparison of Matched Filter and Orthogonal Subspace Projection detectors and a new statistical tool called nonnegative principal component analysis.

www.cis.rit.edu/seminar

for up-to-date seminar schedule, video archives and abstracts.

Speaker Biography

Peter Bajorski received the B.S./M.S. degrees in mathematics from the University of Wroclaw, Poland, and the Ph.D. degree in mathematical statistics from the Technical University of Wroclaw, Poland. He held positions at Cornell University, the University of British Columbia, Simon Fraser University, and NY State Department of Transportation. Currently, he is Associate Professor in the Graduate Statistics Department at RIT. His research interests in remote sensing include target detection and unmixing in hyperspectral images. Other interests include multivariate statistical methods, regression techniques, and design of experiments. Dr. Bajorski has received several awards for his contributions to research and teaching. He has served as a referee for five scientific journals and has written numerous book reviews for book publishers and for professional journals. He is President of the Rochester Chapter of the American Statistical Association. Dr. Bajorski is a member of ASA, SPIE, and IEEE.

At RIT, Dr. Bajorski teaches a course on Multivariate Statistics for Imaging Science specifically designed for imaging science students.