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**ACF 2011 July - September Presentations**

**Fields, Ian**

July – September FY11

Midwestern Criminal Justice Association Meeting

"Taser Deployment: The Role of Departmental Policy and Training in Officer Discretion"

The amount of force police officers use in a given situation has always been grounded in proper training, departmental policy and the proper use of discretion. Changes in recent years have affected the number and type of weapons that officers carry that can be used to counter suspect resistance, or to diffuse potentially violent encounters. This paper will examine how Tasers have impacted the force continuum, as well as how they influence the normal decision-making process an officer uses to determine the level of force necessary in a given situation. Policy and training recommendations will also be presented.

**Taylor, Andrew**

July – September FY11

Conference of the Society for Text and Discourse

"Balanced evidence processing: Evidence based and affect-based subjects process scientific texts differently"

Processing and memory for scientific texts were examined as a function of belief towards a topic and the basis for that belief (evidence vs. affect). Sentence reading times were recorded while subjects read texts that either supported or refuted specific topics (evolution and television violence). Processing was assessed by regressing reading times on certain sentence characteristics, including the extent to which each sentence supports or refutes the text position. Belief basis, but not the beliefs themselves were a good predictor of reading times. Evidence-based subjects slowed down their processing for sentences that opposed the main text position (e.g. pro-evolution sentences in a text that argues against evolution). No such trend was seen in affect-based subjects. Results suggest that evidence-based subjects will, more than affect-based subjects, alter their level of processing throughout a text to create a balanced situation model.

**Verwys, Jonathon**

July – September FY11

Mathematical Association of America

"The Geometry of Compact Sets"

The Hausdorff metric provides a measure of distance between compact sets in any complete metric space. The metric is important for its applications in fractal geometry, image matching, visual recognition by robots, and computer-aided surgery. In this presentation, Sebastian Sanchez and Jonathon Verwys. participants in the Grand Valley State University Research Experiences for Undergraduates program, will present the results of their investigations into the geometry of compact sets of n dimensional real space, with emphasis on properties of betweenness and the trigonometry of this space.

**Zuellig, Matthew**

July – September FY11

Aquatic Plant Management Society (APMS) National Meeting

"Identifying Unique Biotypes of Eurasian Watermilfoil Using A Genetic Fingerprinting Method"

Aquatic plant managers increasingly recognize the role of unique biotypes that exhibit unique growth responses to management practice. One challenge to identifying biotypes is that they are often indistinguishable from one another based on morphology. I am exploring approaches involving the utilization of molecular markers to identify potentially unique biotypes. Here, I present the result of a genetic survey of Eurasian watermilfoil in North America using highly polymorphic molecular markers. This data reveals several genetically distinct populations, which may correspond to the presence of unique biotypes. This research emphasizes the degree of genetic variation that occurs within this system and how this variation may correspond to attributes of management concern.