The <u>Bi-College Mathematics Colloquium</u>, in conjunction with <u>Computer Science</u>, presents a talk by

Bruce Char

Professor of <u>Computer Science</u>
<u>Drexel University</u>

Explorations in the characterization of mathematical handwriting

We explore a characterization of a handwritten symbol, that of approximating a normalized x/y coordinate sequence from a handwriting sample as a linear combination of basis functions fit to the normalized coordinate sequence. We can describe the model for a symbol as in this way, and match new input against model vectors that are close to the vector of the input.

We explored this idea using the **Ontario Research Centre for Computer Algebra** (<u>ORCCA</u>) database of handwriting samples. It suggests that similar handwritten characters do have vectors that are close together. We discuss the preliminary results and what they suggest for future work, and demonstrate some of the tools (some using <u>Maple</u>) we used or built to conduct the exploration.

This is joint work with <u>Stephen Watt</u>, with contributions by Elena Smirnova of the <u>ORCCA</u> group of the <u>University of Western Ontario</u>.

Monday, November 26, 2007
Talk at 4:30 PM
KINSC, Hilles 109

Tea at 4:15 pm KINSC H208

<u>Directions</u> to <u>Haverford College</u> and a <u>Map of the Campus</u> (Hilles is building 5b; park in either lot 53 or 45)