Please join us in one of the Shepherd S-STEM Club Seminars:

**The Butterfly Theorem: An Automated Proof**

*By Dr. Iyad Ajwa, Professor and Chair, Department of Mathematics and Computer Science, Ashland University, Ohio*

Time and location: 1:10-2pm, Monday November 17, 2014 @ SN226

**Abstract:** Automated Geometry Theorem Proving is an important application of advanced algebraic algorithms. The geometric description of a problem will be given to a computer program in the form of polynomials. In the process of proving the problem, the program could be said to be "reasoning" about the geometric constraints and to be "deciding" whether the geometric theorem is correct. An algorithmic technique, known as Wu's Method, will be presented and applied to provide an automated proof to the Butterfly Theorem.

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**Dr. Iyad Ajwa** is a Professor of Computer Science and Chair of Department of Mathematics and Computer Science at Ashland University in Ashland, Ohio. He earned his Doctor of Philosophy in computer science from Kent State University, Kent, Ohio; a Master of Science in computer science and a Master of Science in mathematics from Lehigh University, Bethlehem, Pennsylvania; and Bachelor of Science in mathematics from the University of Jordan, Amman, Jordan. Dr. Ajwa joined Ashland University in 1997 and has taught a variety of computer science and mathematics courses. He has authored numerous articles that have been published in journals and conference proceedings on parallelism in symbolic mathematical computations, computer algebra, and computer science education.

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**Acknowledgements:** This talk is sponsored by the NSF S-STEM grant (DUE-1259713).