

السيرة الذاتية
الاسم: سامر شفيق سليم الأشهب

Education

PhD in Mathematics (December 2003) North Carolina State University, NC, USA.

Thesis Title: The role of sh-Lie algebra in Lagrangian field theory. GPA: 4.0.

MSc in Applied Mathematics (Aug 2000) North Carolina State University, NC, USA.

Thesis Title: Undercompressive waves in driven thin film flows. GPA: 4.0.

BSc in Electrical Engineering (January 1995) The University of Jordan.

Experience

- Assistant Professor: Al Imam Mohammad Ibn Saud Islamic University, Saudi Arabia: August 2013-present.
- Assistant Professor: German Jordanian University, Jordan: Aug 2012-Aug 2013.
- Assistant Professor: Hashemite University, Jordan: February 2011-August 2012.
- Instructor of Mathematics: University of New Orleans, LA, USA: Aug 2004-Dec 2010
- Instructor of Mathematics: North Carolina State University, NC, USA: Jan 2004-Aug 2004.

Publications

- Canonical Transformations of Local Functionals and sh-Lie structures (with Ron Fulp) *Journal of Geometry and Physics* **53** (2005) pp. 365-382.
- Symmetry Reduction of sh-Lie Structures and of Local Functionals. *Differential Geometry and Its Applications* **21** (2004) pp. 215-227.
- A Class of Strongly Homotopy Lie Algebras with Simplified sh-Lie Structures. *Journal of Pure and Applied Algebra* **208** (2007) pp. 647-653.
- Canonical transformations and Hamiltonian evolutionary systems. *Journal of Mathematical Physics* **53**, 063502 (2012); DOI 10.1063/1.4726174.
- Similarity Solutions for a non-Newtonian power-law fluid flow (with Dongming Wei). *Applied Mathematics and Mechanics (English Edition)* **35**, 9 (2014) pp. 1155-1166; DOI 10.1007/s10483-014-1854-6.
- Negative Curvature Solutions in a non-Newtonian power-law fluid flow (with Dongming Wei). *Pacific Journal of Applied Mathematics* **6**, 4 (2014) pp. 293-303.
- Parameter variation in a third order singular boundary value problem. *International journal of open problems in computer science and mathematics* **8**, 1 (2015) pp. 55-65.
- A Curvature Unified Equation for a non-Newtonian power-law fluid flow. *International journal of advances in applied mathematics and mechanics* **2**, 3 (2015) pp. 72-77.
- Estimation of the Shear Stress Parameter of a Power-Law Fluid. *Mathematical Problems in Engineering* **2016**, (2016) Article ID 4729063, pp. 1-4; doi:10.1155/2016/4729063.

Meetings and Talks/Presentations

- Southeast Geometry conference: South Carolina, USA March 2003:
Strongly homotopy Lie algebra in Lagrangian field theory.
- AMS sectional meeting in homological physics: North Carolina, USA October 2003
Strongly homotopy Lie algebra and the reduction of the de Rham complex of a Lagrangian field theory.
- AMS sectional meeting in symmetry techniques for partial differential equations Delaware, USA April 2005:
Canonical transformations and Hamiltonian evolutionary systems.

Honors Member of *PhiKappaPhi* and *PiMuEpsilon-mathematics honor societies*.

Languages:

English & Arabic: Reading, writing, and speaking. French: Reading.

Research Interests: Nonlinear ordinary differential equations with applications, existence/uniqueness. Adomian decomposition method. Singular equations. Fluid flow applications. Differential geometry, algebraic topology, and mathematical physics: Lagrangian field theory, invariance, symmetry, and reduction. Applications of local functionals and strongly homotopy Lie algebras in differential geometry.