

Ali Ibrahim Zein

Assistant Professor
Department of Mathematics
Palestine Polytechnic University

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Personal Information

Date of Birth: 12.02.1978
Place of Birth: Hebron, Palestine
Place of Residence: Yatta, Palestine
Marital Status: Married, three children

Education

10/2007 - 6/2010 Ph.D., Mathematics,
Institute for Analysis and Numerics,
Otto-von-Guericke University of Magdeburg, Germany.
Average: 1.0 (Rating: Magna Cum Laude)

2002 - 2005 M.Sc., Applied Mathematics,
Al-Quds University, Palestine.
Average: 94.4% (Rating: Excellent)

1996 - 2001 B.Sc., Electrical Engineering,
Birzeit University, Palestine.
Average: 91% (Rating: High Distinction)

1996 General Secondary Education Certificate (Tawjihi),
Yatta Secondary School, Palestine.
Average: 96.9% (Rating: Excellent)

Theses

- Ph.D.: Numerical methods for multiphase mixture conservation laws with phase transition, Otto-von-Guericke University of Magdeburg, Germany, 2010.
Supervisor: Prof. Dr. Gerald Warnecke.
- M.Sc.: Oscillation of n^{th} order neutral delay differential equations, Al-Quds University, Palestine, 2005.
Supervisor: Dr. Taha Abu-Kaff.

Work Experience

- 9/2010 - present: Assistant Professor, Department of Applied Mathematics,
Palestine Polytechnic University, Palestine.
- 2005 - 2007 Lecturer, Department of Applied Mathematics,
Palestine Polytechnic University, Palestine.
- 2004 - 2005 Teaching and Research Assistant, Department of Mathematics,
Al-Quds University, Palestine.
- 2001 - 2004 Teaching and Research Assistant, Department of Electronic Engineering,
Al-Quds University, Palestine.

Academic Honors

- German Academic Exchange Service (DAAD) Ph.D. Scholarship (2007-2010).
- First position among the graduates of the entire university, Al-Quds University, 2005.
- First position among the graduates of the entire Engineering Faculty, Birzeit University, 2001.
- Scholarship awarded by Birzeit University for excellence in the general secondary school examination, full funding of the B.Sc. studies (1996-2001).

Publications

- A. Zein, M. Hantke, and G. Warnecke. Modeling phase transition for compressible two-phase flows applied to metastable liquids. *J. Comput. Phys.*, 229(8):2964-2998, 2010.
- A. Zein, M. Hantke, and G. Warnecke. On the modeling and simulation of a laser-induced cavitation bubble. *Int. J. Numer. Meth. Fluids*, 73:172-203, 2013.
- A. Zein, and T. Abu-Kaff. Bounded oscillation of higher order neutral differential equations with oscillating coefficients. *Appl. Math. E-Notes*, 6:126-131, 2006.
- R. Al-Hamouri and A. Zein, Oscillation results of higher order nonlinear neutral delay differential equations, *Electronic Journal of Qualitative Theory of Differential Equations*, 2014, No. 19, 1-7, 2014.
- R. Al-Hamouri and Ali Zein, Oscillation criteria for certain even order neutral delay differential equations, *International Journal of Differential Equations*, vol. 2014, Article ID 437278, 2014. .
- H. Jawaeda and A. Zein, Oscillation results for second order nonlinear neutral delay dynamic equations on time scales, *International Journal of Mathematics and Statistics Invention*, 4(10): 1-8, 2016.

Talks in Workshops

- On the modeling and simulation of laser-induced cavitation bubbles, FOURTH WORKSHOP "Micro-Macro Modelling and Simulation of Liquid-Vapour Flows", February, 4-6, 2009, Aachen, Germany.
- Modeling phase transition for compressible two phase flows applied to metastable liquids, NINTH Hirschegg Workshop on Conservation Laws, September, 6-12, 2009, Hirschegg, Austria.
- On the numerical simulation of a laser-induced cavitation bubble with phase transition, FIFTH WORKSHOP "Micro-Macro Modelling and Simulation of Liquid-Vapour Flows", April, 14-16, 2010, Strasbourg, France.
- Modeling phase transition for compressible two phase flows: application to cavitation bubbles, Workshop on computational methods in science and engineering, March 14, 2015, An-Najah National University, Nablus, Palestine.

Master Students

- Razan Hamouri, Numerical methods for Euler equations, 2012.
- Hiba Jawaeda, Oscillation of second order nonlinear neutral dynamic equations on time scales, 2014.
- Ghadeer AL-Bakri, Oscillation of first order impulsive functional differential equations, 2015.
- Alaa Al-Khatib, Differential Transform Method for Differential Equations, 2016.
- Kholoud Nashawieh, Variational iteration method for differential equations, 2016.
- Manal Junaidee, work in progress.

Teaching

- Undergraduate Courses
 - Numerical Analysis
 - Real Analysis (I, II)
 - Complex Analysis
 - Partial Differential Equations
 - Applied Mathematics for Engineers
 - Differential Equations
 - Calculus (I, II, III)
- Graduate Courses
 - Numerical Analysis - MSc. in Mathematics
 - Special Topics in Applied Mathematics - MSc. in Mathematics
 - Simulation - MSc. in Informatics