Benjamin Holman

Curriculum Vitae

Education

2011–Present **Pursuing Phd. in Applied Mathematics**, *The University of Arizona*, Expected Graduation in Spring 2016.
Developing fast algorithms for solving inverse problems associated with medical imaging, advised by Dr. Leonid Kunyansky. Current research focusses on spectral reconstruction techniques for thermo-acoustic tomography.

2011–2013 **Masters of Applied Mathematics**, *The University of Arizona*.

2007–2011 **Bachelors of Science, Applied Mathematics**, *The College of William & Mary*.
Honour's Thesis on non-linear dynamics under the supervision of Dr. Sarah Day. Thesis focussed on quantitative analysis of patterns in a high-dimensional system of discrete non-linear maps.

Research Publications

2015 **Paper**.
B. Holman and L. Kunyansky, "Gradual time reversal in thermo- and photo- acoustic tomography within a resonant cavity", Inverse Problems (February 2015); `http://iopscience.iop.org/0266-5611/31/3/035008/`

2013 **Paper**.
L. Kunyansky, B. Holman, B. Cox, "Photoacoustic tomography in a rectangular reflecting cavity", Inverse Problems (November 2013); `http://iopscience.iop.org/0266-5611/29/12/125010/`

2013 **Conference Paper**.
B.T. Cox, B. Holman, L. Kunyansky, "Photoacoustic tomography in a reflecting cavity", Proc. SPIE 8581, Photons Plus Ultrasound: Imaging and Sensing 2013, 85811D (March 4, 2013); `http://dx.doi.org/10.1117/12.2003571`

Computer Languages

I use FORTRAN, C, and MATLAB on a daily basis. I wrote code for all of my published research in FORTRAN. One of my current (unpublished) projects uses hydrodynamic solvers which I wrote in C.

Teaching

Fall 2011 - Present **Instructor of Record**, *The University of Arizona*.
Assumed all responsibilities associated with teaching the following classes: Calculus II, Calculus I, Pre Calculus, College Algebra

Fall 2014 **Teaching Assistant**, *The University of Arizona*, Numerical Analysis.
Held some recitations and weekly office hours for a class which is part of the core graduate curriculum, instructor of record was Dr. Leonid Kunyansky.

Fall 2013 – Spring 2014 **Teaching Assistant**, *The University of Arizona*, Principles and Methods of Applied Mathematics.
Held weekly recitations or office hours for a class which is part of the core graduate curriculum, instructor of record was Dr. Shankar Venkataramani.

Spring 2011 **Undergraduate Teaching Assistant**, *The College of William and Mary*, Ordinary Differential Equations.
Held weekly office hours and graded homework assignments. Instructor of record was Dr. Sarah Day.

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