

# Travis A. Olson

---

## CONTACT INFORMATION

Fort Collins, CO 80524

Website: [www.math.colostate.edu/~olson](http://www.math.colostate.edu/~olson)

## RESEARCH INTERESTS

Mathematics Education, Interdisciplinary Studies, Mathematical Modeling, Dynamical Systems, Pattern Formation

## EDUCATION

**Colorado State University**, Fort Collins, Colorado USA

Ph.D., Mathematics (expected graduation date: Spring/Summer 2010)

- Thesis Topic: Anisotropic Hopf Bifurcation in a Finite Domain
- Advisor: Professor Gerhard Dangelmayr
- Area of Study: Dynamical Systems, Pattern Formation

M.S., Physics, December 2001

- Advisor: Professor Richard Eykholt
- Area of Study: Chaos and Nonlinear Dynamics

**University of Wisconsin at Oshkosh**, Oshkosh, Wisconsin USA

B.S., Secondary Education, Chemistry, Physics, June 2000

## ACADEMIC EXPERIENCE

**Colorado State University**, Fort Collins, Colorado USA

*Mathematics Graduate Student*

**August 2004 to present**

*GTA Mentor*

- Chosen to mentor first year graduate teaching assistants
- Helped create and run GTA training workshop
- Performed in class evaluations and advised GTA on areas of improvement

*Committee Work*

- Graduate Student Representative of the Graduate Committee
- Participated in revision of PhD qualification system
- Observed graduate student admission process

*Classroom Instructor*

- Prepared class sessions, assigned homework and graded for all courses
- Non-coordinated teaching appointments are indicated with a (\*); duties included determining topics covered, constructing appropriate syllabus, writing and scheduling exams, writing homework assignments
- Courses Taught:
  - Introduction to Ordinary Differential Equations, (\*)Su. '07, (\*)Su. '08, Sp. '09
  - Calculus for Physical Sciences III, Sp. '08
  - Calculus for Physical Sciences II, Fa. '09
  - Calculus for Physical Sciences I, Fa. '06, Sp. '07, Fa. '07
  - Algorithms in Maple, (\*)Fa. '08
  - Financial Mathematics, Fall '05, Sp. '06
  - Math in the Social Sciences, (\*)Su. '06
  - Analytic Trigonometry, Sp. '05, Su. '05
  - Numerical Trigonometry, Sp. '05, Su. '05
  - Logarithmic & Exponential Functions, Sp. '05, Su. '05

*Physics Graduate Student*

**August 2000 to June 2002**

*Teaching Assistant*

- Recitation Instructor for Physics for Scientists and Engineers I (Calculus Based)
- Lab Instructor for Physics for Scientists and Engineers I (Calculus Based)
- Lab instructor for Astronomy Laboratory

**High School Teaching Experience**

*Substitute High School Teacher*

**August 2002 to June 2004**

- Substitute teacher for various subjects in several Wisconsin School Districts
- Wisconsin Teaching Certification (Expired June 2007)

*Appleton Christian High School*

**September 1999 to June 2000**

- Teacher Intern for Small Private High School in Appleton, Wisconsin
- Primary Teacher for Chemistry and Physics

**Other Experience**

*Science Outreach*

**Fall 1997 to Summer 1999**

- Assisted in training Elementary School Teachers in how to engage students in inquiry based science during Summer workshops
- Participated in “Scientist-in-Residence” program where I worked with the same elementary classes several consecutive days on science inquiries

*Department of Chemistry Research Assistant*

**June 1997 to August 1997**

- Worked with UW-Oshkosh faculty on research projects
- Performed Calorimetry and Nuclear Magnetic Resonance Experiments in connection with undergraduate research grant

**PUBLICATIONS**

J. E. Mihalick, W. P. Griffiths III, J. E. Muten, T. A. Olson, J. B. Hein, “Thermochemistry of Binding of Lead (II) and Cadmium (II) by Saccharides in Aqueous Solution.” *Journal of Solution Chemistry* 28, 1025-1036 (1999).

T. Olson and G. Dangelmayr, “Amplitude equations for oscillatory instabilities in 2D anisotropic systems posed in a large rectangle.” In preparation.

T. Olson and G. Dangelmayr, “Nonlinear wave patterns in a 2D anisotropic activator-inhibitor system.” In preparation.

**TALKS**

“Resonant Evil: Model of a 2-D Anisotropic Fluid in a Rectangular, Bounded, Region” *Greenslopes Graduate Seminar*, CSU, Spring 2008

“Resonant Evil II: Electric Boogaloo; or, Hopf Instability in Large, but Finite, Anisotropic Systems” *Greenslopes Graduate Seminar*, CSU, Spring 2009

“Resonant Evil III: Revenge of the Truncated Fourier Series; or, Hopf Bifurcation in Anisotropic Diffusion Systems Posed in Large Rectangles” *Greenslopes Graduate Seminar*, CSU, Fall 2009

**AWARDS**

Summer Research Assistantship, 2009

**GRANTS**

University of Wisconsin Oshkosh Faculty & Undergraduate Student Research Collaboration Grant (with Dr. Jennifer Mihalick), “Energy changes in saccharide - metal interaction,” 1997

SERVICE

*Math Day Volunteer*

**2004 to 2009**

- High School mathematics competition
- Students compete on individual written exams and group competitions for prizes offered from local and national donors

SKILLS

L<sup>A</sup>T<sub>E</sub>X, Matlab, Octave, Maple, OSX, Windows, WebWork