

KIMBERLY S. ARTITA
ENGINEER INTERN

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HTTP://CIVIL.ENGR.SIU.EDU/GRADUATESTUDENTS/ARTITA/INDEX.HTML

EDUCATION

- **Southern Illinois University, Carbondale**
Department of Civil & Environmental Engineering
College of Engineering
-**Ph.D. Engineering Science**, *expected graduation* December 2009
- **University of Nevada, Reno**
Department of Geological Sciences & Engineering
Mackay School of Earth Science & Engineering
-**M.Sc. Geological Engineering**, May 2006
- **University of Hawai'i at Mānoa**
Department of Geology and Geophysics
School of Ocean, Earth Sciences & Technology
-**B.S. Geology & Geophysics**, May 2003

ACADEMIC HONORS

- Freshman Honors Certificate – (completion of lower division honors courses)
University of Hawai'i at Mānoa
- Agatin Abbott Memorial Award - (to outstanding graduating senior)
School of Ocean, Earth Sciences & Technology, University of Hawai'i at Mānoa

RESEARCH INTERESTS

- Biologically-inspired computation for optimization including methods to generate multiple, alternative near-optimal solutions
- Integrative watershed-scale decision support techniques
- Use of ecosystem services valuation in water resources engineering

CERTIFICATION

- Engineer Intern, certified in Nevada. *Certificate #0T4995*
- Teaching Preparedness and Professional Development (completion of graduate seminar series)
Spring 2007, College of Engineering, Southern Illinois University Carbondale

PROFESSIONAL EXPERIENCE

PhD Intern, Water Resources Division– August 2008 to present
Camp, Dresser and McKee, Carbondale, Illinois
<http://www.cdm.com>

- Conducting research on water resources planning and management, and water conservation techniques and implementation.

Graduate Research Assistant, Water Resources – August 2006 to August 2008

Department of Civil & Environmental Engineering, Southern Illinois University, Carbondale

<http://civil.engr.siu.edu/civil/home.asp/>

- Conducting research on generating alternatives for decision-support in watershed-scale design of best management practices using USDA's Soil and Water Assessment Tool
- Experienced with programming languages Fortran, MatLab, and Python
- Experienced with biologically-inspired computation and use of evolutionary algorithms for optimization

Assistant – April 2006 to August 2006

Little River Research & Design, Carbondale, Illinois

<http://www.emriver.com/>

- Experienced in video/DVD filming and post-production using Final Cut Studio Pro/Motion/DVD Studio Pro Suite
- Experienced in preparation of fluvial geomorphology consulting reports for St. Louis County, Missouri
- Performed various experiments and calibration of Emriver®, a river process simulator produced by Little River Research & Design

Staff Professional – Sept. 2005 to Dec. 2005

Marvin E. Davis & Associates, Inc., Reno, Nevada

<http://mdageotechnical.com/>

- Performed specialized engineering and geologic analyses related to foundation design, slope stability, geologic hazards evaluation, geologic mapping and research in Northern Nevada and Lake Tahoe, California
- Experienced with on-site geological/geotechnical investigation including auger and air/mud rotary drilling, SPT and modified California sampling, rock coring and visual logging.
- Experienced with computer software including AutoCAD, and gINT.

Scientific Illustrator – July. 2005 to Dec. 2005

Piedmont GeoSciences, Inc., Reno, Nevada

- Composed and edited scientific illustrations using Adobe Illustrator CS and Photoshop. Work primarily related to geologic consulting conducted for PG&E in California.

Graduate Research Assistant - Aug. 2003 to June 2005

Department of Geological Sciences & Engineering, University of Nevada, Reno

- Working with Dr. Richard Schultz and other graduate students in the *Geomechanics-Rock Fracture Group* to:
 1. Research fault growth in porous granular rock
 2. Investigate material properties & evolution of Mars
 3. Examine faulting & surface deformation on Earth and Mars

Education Assistant - Mar. 2001 to July 2003

Hanauma Bay Education Program, University of Hawai'i Sea Grant Extension Service

Hanauma Bay Marine Life Conservation District, Honolulu, Hawaii

- Assisted Volunteer Coordinator Jennifer Barrett in overseeing 80+ active volunteers
- Developed "Geology of the Hawaiian islands" PowerPoint presentations and materials for Volunteer training sessions
- Developed "Geology of Hanauma Bay" pamphlet and led related hike
- Answered questions on marine biology, geology, conservation, and Hawaiian culture

Student Assistant - Jan. 2002 to July 2003

Volcanology, Geochemistry & Petrology Division

Department of Geology & Geophysics

School of Ocean, Earth Sciences and Technology, University of Hawai'i at Manoa

- Prepared samples from Kilauea's Pu'u 'O'o for XRF analyses (experienced in hydraulic comminution and in use of rock saws)
- Prepared samples for electron microprobe analyses
- Assisted Dr. Mike Garcia and his graduate students with microscope work, PowerPoint presentations, and illustrations for publications

Student Trainee - June 2002 to July 2002

JOIDES Ocean Drilling Program

LEG 203 - Dynamics of Ocean and Earth Systems

- Assisted shipboard igneous petrologists in description and classification of hard rock core
- Assisted shipboard sedimentologist in description and classification of soft sediment core (from Leg 202)

PUBLICATIONS

Moberly, R., Ishii, T., Garcia, MO, Ross, K., and **KS Artita**, 2006. Enriched, transitional, and normal mid-ocean-ridge basalt glass, ODP Leg 203. In Schultz, A., Orcutt, J.A., and Davies, T.A. (Eds.), Proc. ODP, Sci. Results, 203, 1–36 [Online]. Available from World Wide Web: <http://www.odp.tamu.edu/publications/203_SR/VOLUME/CHAPTERS/002.PDF>.

CONFERENCE PROCEEDINGS/PRESENTATIONS

Sears, MW and **KS Artita**, 2009. Optimal decision rules for dispersal under activity-mortality tradeoffs for small ectotherms in thermally-structured landscapes. *2009 Annual Meeting of the Society of Integrative and Comparative Biology*, Boston, MA.

Artita, KS, Polnazsek, T, and MW Sears, 2009. Should I stay or should I go? Optimal decisions for attack and flight during predator-prey interactions. *2009 Annual Meeting of the Society of Integrative and Comparative Biology*, Boston, MA.

Polnazsek, T, **Artita, KS**, and MW Sears, 2009. Strategies for optimization in behavioral and ecological research using evolutionary computation. *2009 Annual Meeting of the Society of Integrative and Comparative Biology*, Boston, MA.

Artita, KS, Kaini, P, and JW Nicklow, 2008. Generating alternative watershed-scale BMP designs with evolutionary algorithms. *Proceedings of the 2008 World Water and Environmental Resources Congress, ASCE*, Honolulu, HI.

Kaini, P, **Artita, KS**, and JW Nicklow, 2008. Designing BMPs at a watershed-scale using SWAT and a genetic algorithm. *Proceedings of the 2008 World Water and Environmental Resources Congress, ASCE*, Honolulu, HI.

Sears, MW, **Artita, KS**, and T Shroud, 2008. Using evolutionary algorithms to predict optimal navigational decisions through thermally-structured environments. *2008 Annual Meeting of the Society of Integrative and Comparative Biology*, San Antonio, TX.

Kaini, P, **Artita, KS**, and JW Nicklow, 2007. Evaluating optimal detention pond locations at a watershed scale. *Proceedings of the 2007 World Water and Environmental Resources Congress, ASCE*, Tampa, FL.

Artita, KS and RA Schultz, 2005. Significance of deformation band-like strike-slip faults on Mars. *Lunar and Planetary Institute, 36th Lunar and Planetary Science Conference* in League City, TX.

Artita, KS and RA Schultz, 2004. Pattern and development of deformation bands near strike-slip fault junctions. *American Geophysical Union Fall Conference* in San Francisco, CA.

Artita, KS and RA Schultz, 2004. 3D fault interaction and depth of faulting, Mars. *Lunar and Planetary Institute, 35th Lunar and Planetary Science Conference* in League City, TX.

PROFESSIONAL AFFILIATIONS

[American Society of Civil Engineers](#)

[American Geophysical Union](#)

REFERENCES

Provided upon request.