

---

**Angela J.A. Shankle**  
Department of Geology and Geophysics  
Dept. 3006  
1000 University Avenue  
University of Wyoming  
Laramie, WY 82071

(307)399-7073

---

**Education:**

<b>MS Geology and Geophysics</b>	University of Wyoming
Anticipated graduation:	December 2008
Advisor:	Carrick Eggleston
Thesis: Influence of water on nanocrystalline iron oxide formation and resultant photocatalytic properties.	
<b>BS Geology and Geophysics</b>	University of Wyoming
	Summer 2006

**Teaching Experience:**

<b>UW GEOL 1070</b> The Earth and its Physical Environment	Spring 2008 (C. Eggleston)
Lectured course on a substitute basis and acted as teaching assistant as needed.	
<b>UW GEOL 2000</b> Geochemical and Earth System Cycles	Fall 2007. (C. Eggleston)
Lectured on a substitute basis. Guided weekly laboratory sessions and graded completed laboratory and homework assignments, assisted in lab development, and held weekly office hours.	
<b>UW GEOL 4717</b> Summer Field Course	Summer 2007 (E. Campbell-Stone)
Teaching assistant for ten days of a 6-week course (scheduled substitute). Performed student evaluations and assisted students in the field, providing transportation and guidance. Aided in camp set-up and clean-up, and food preparation.	
<b>UW GEOL 1100</b> Physical Geology (Lab)	Spring 2007 (E. Campbell-Stone)
Led two laboratory sections of approximately 20 students each. Assisted in lab revision, assisted students in weekly homework assignments, graded weekly homework assignments.	
<b>UW, GEOL 2000</b> Foundations of Geology I	Fall 2006 (C. Eggleston)
Assisted in lab development, led lab sessions on a substitute basis, assisted students in weekly homework assignments, graded weekly homework assignments.	

### **Research Responsibilities:**

- Fabricated silicon-doped hematite nanocrystalline (Si:Fe<sub>2</sub>O<sub>3</sub>) films on fluorine-doped tin oxide (FTO) substrates via Atmospheric Pressure Chemical Vapor Deposition (AP CVD).
- Performed cyclic voltammetry on films utilizing various potentiostat/galvanostatic instruments including the EG&G, Gamry, CH Instruments, and others.
- Performed impedance spectroscopy of Si:Fe<sub>2</sub>O<sub>3</sub> films using Gamry software and instrumentation.
- Carried out spectrophotometric studies of FTO and Si:Fe<sub>2</sub>O<sub>3</sub> films using the DeltaNu ExamineR Raman Spectrometer
- Characterized the mineralogy and crystallography of films with X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM)
- Utilized UV-Vis spectrophotometry to characterize absorbance and transmittance of films.
- Maintained and reconditioned Ag-AgCl reference electrodes.
- Maintained and reconditioned pH electrodes.
- Operated flow meters and flow controllers during AP CVD deposition.
- Calibrated and operated pH meters .
- Designed, built and maintained experimental set-up.

### **Abstracts:**

- Shankle, A.J.A., Eggleston, C.M., Ackerman, J., Borman, C.J.; Synthesis and photocatalytic properties of nanocrystalline hematite films: Comparison to natural hematite crystals, Goldschmidt 2008, 14 July 2008 (PRESENTATION).
- Moyer, Amanda J., Shankle, A.J.A., Eggleston, C.M., Borman, C.J., Swoboda-Colberg N.; Synthesis of mineral semiconductor thin films: Toward mineral-based photosynthesis, Goldschmidt 2008, 15 July 2008 (PRESENTATION).
- Eggleston, C.M., Shankle, A.J., Borman, C.J., Moyer, A.J.; From laboratory to field: Iron oxide properties, photocatalytic water oxidation, and Fe(III) photoreduction, ASLO 2008, 13 June 2008 (PRESENTATION).
- Shankle, A.J.A., Eggleston, C.M., Ackerman, J., Borman, C.J.; Photocatalytic water oxidation by hematite nanocrystalline thin films: Toward solar fuels, 2008 Graduate Student Symposium, University of Wyoming, 3 April 2008 (PRESENTATION).
- Moyer, Amanda J., Shankle, A.J.A., Eggleston, C.M., Borman, C.J., Swoboda-Colberg N.; Synthesis of strontium titanate thin films: A route to photoelectrochemical carbon reduction, 2008 Graduate Student Symposium, University of Wyoming, 2 April 2008. (PRESENTATION).
- Marrs, Ron; Pitts, Susan; Shankle, Angela; Shuster, Minden; and Cox, Rick; A New Technology for Rock and Mineral Identification in the Earth Sciences: The ROCKHOUND™ Raman Spectrometer, Paper #94755, GSA 2005 (POSTER)

**Honors, Affiliations, and Responsibilities:**

- Department Faculty Advisory Committee 2007-2008  
MS Student Representative
- ISEF Wyoming State Fair, Judge March 2008
- UW Energy Symposium, Session leader Fall 2007
- Phi Kappa Phi Selected Spring 2007
- Anne Kirtland Selden Lowe Geology & Geophysics Scholarship 2005-2006
- American Chemical Society (ACS) Student Membership 2005-present
- Geological Society of America (GSA) Student Membership 2005 - present
- American Association of Petroleum Geology (AAPG) Student Membership 2005 – present

**Other Employment:**

Geology Intern

Delta Nu

June - December 2005

Laramie, WY 82072

Immediate Supervisor: Rick Cox, PhD

Duties: Creating and maintaining a mineral database for the RockHound™ Raman Spectrometer, in addition to testing and creating labs suitable for lower-division geology and organic chemistry college courses. The RockHound™ Raman Spectrometer is a portable, hand-held spectrometer suitable for rapid, non-destructive mineral identification in a field setting.

Certified Pharmacy Technician

Kmart Corporation – various locations

May 1998- June 2004

National Certification No. 5208824341501 State License No. 1295T WY