
Skigh E. Lewis

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EDUCATION

Ph.D., Chemical Engineering, Brigham Young University, Provo, Ut. Dec. 2007 (3.46 GPA)

B.S., Chemical Engineering, Brigham Young University, Provo, Ut. April 2003 (3.79 GPA)

EXPERIENCE

Graduate Research, Brigham Young University, May 2003-present

- Developed particle diagnostic system using a visible laser, high-speed cameras, and optical pyrometry to analyze combustion properties of various fuels, including biomass, coal, and aluminum
- Characterized properties of the above fuels using the particle diagnostic system to obtain time-resolved particle size, surface temperature, and mass loss data as a function of pressure and gas composition during combustion

Research Assistant, Brigham Young University, 2002-2003

Advanced Combustion Engineering Research Center (ACERC)

- Developed bench-scale fluidized bed to study fluidization and agglomeration properties of CaCO_3 and Na_2SO_4 beds used in black liquor combustion
- Assisted in experiments to determine internal and surface temperatures of biomass particles during combustion

Summer Intern, Amarillo, Texas, Summer 2002 & 2003

U.S. Department Of Energy, BWXT Pantex Plant

- Managed engineering team to investigate areas of solvent contamination using data from soil vapor samples and a subsurface real-time mass spectrometer
- Evaluated sampling data to determine contaminant extent and began implementation of remedial Soil Vapor Extraction (SVE) System
- SVE system will provide long-term protection of regional drinking water by preventing toxic solvents from reaching the water table

Volunteer Representative, Santiago, Dominican Republic, 1997-1999

The Church of Jesus Christ of Latter-Day Saints

- Trained 15-20 Spanish-speaking area missionaries in contacting and teaching techniques
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AWARDS RECEIVED

Dean's List, Brigham Young University, College of Engineering and Tech., April 2002

Presidential Scholarship, Brigham Young University, 1996-97, 1999-2002

PRESENTATIONS

1. Lewis, S., K. Brunner, H. Lu, M. Vickers, and L. Baxter, "Optical Levitation of Absorbing Particles for Combustion Analyses," presented at the 20th annual ACERC Conference; Provo, Utah (February 2006)
2. Lewis, S., L. Baxter, and J. Peatross, "Laser Levitation: Determination of Particle Reactivity," presented at the 19th annual ACERC Conference; Provo, Utah (February 2005).

REFERENCES

Larry Baxter, Graduate Research Advisor
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