

Contact Information

Name:	William V. Slaton	Phone:	1-501-450-5905
Title:	Assistant Professor	FAX:	1-501-852-2286
Department:	Physics & Astronomy	Email:	wvslaton@uca.edu
Institution:	The University of Central Arkansas	Web:	http://faculty.uca.edu/~wvslaton/
Location:	Conway, AR 72035		

General Experience

Education

Date	Degree	Institution
August 2001	Ph.D. Physics	Univ. of Mississippi, Oxford MS
May 1999	M.A. Physics	Univ. of Mississippi, Oxford MS
May 1996	B.S. Physics	Univ. of Central Arkansas, Conway AR

Positions Held

Dates	Position	Institution
8/2004 - Present	Assist. Prof.	Univ. of Central Arkansas
5/2004 - 8/2004	Visiting Scientist	Tech. Univ. at Eindhoven, NL
8/2003 - 5/2004	Visiting Assist. Prof.	Univ. of Mississippi
10/2001 - 8/2003	Postdoc. Res. Scientist	Tech. Univ. at Eindhoven, NL

Teaching Experience

Courses Taught

PHYS 1400: Physical Science for General Education (×2)
 PHYS 1441: University Physics I (×3)
 PHYS 1442: University Physics II (×2)
 PHYS 3342: Classical Mechanics (×1)
 PHYS 3343: Thermal Physics (×2)
 PHYS 4110: Senior Laboratory (×2)
 PHYS 4103, 4203, 4303: Special Problems in Physics

Service Experience

Reviewer for the Journal of the Acoustical Society of America and the Journal of Applied Acoustics.
 State Science Fair Judge, Earth Science (2005-2006).
 Junior Academy of Science Judge in Physics (2006).
 Director of the Arkansas Science Talent Search (2006-Present).
 Department representative to the Outstanding CNSM Student Committee (2005-Present).
 At-large member of the CNSM Curriculum Assessment Committee (2005-2008).
 At-large member of the CNSM Research Committee (2006-2009).
 Society of Physics Students faculty mentor (2005-Present).

Research Experience

My research experience includes general linear acoustics, binary inert gas mixture properties and sound propagation therein, and acoustics in inert gas - vapor systems and systems with multiple phases. These skills necessitate knowledge of heat, mass and momentum transport in fluid dynamic systems; specific systems of which I am familiar include thermoacoustic refrigeration, photoacoustic phenomena, as well as sound generation by vortex shedding. I am also familiar with numerical modeling, finite difference and Runge-Kutta computational algorithms, and general scientific programming in Fortran, Mathematica and Excel.

Publications

1. W.V. Slaton and J.C.H. Zeegers, "Thermoelectric power generation in a thermoacoustic refrigerator," *Applied Acoustics* 67, 450-460 (2006).
2. C. Jensen, R. Raspet and W. Slaton, "Temperature gradient integration in thermoacoustic stacks," *Applied Acoustics* 67, 689-699 (2006).
3. W.V. Slaton and J.C.H. Zeegers, "Acoustic power measurements of a damped aeroacoustically driven resonator," *J. Acoust. Soc. Am.* 118 (1), 83-91 (2005).
4. W.V. Slaton and J.C.H. Zeegers, "An aeroacoustically driven thermoacoustic heat pump," *J. Acoust. Soc. Am.* 117 (6), 3628-3635 (2005).
5. W.V. Slaton, "Comment on 'Acoustical losses in wet instrument bores' [J. Acoust. Soc. Am. 114, 1221 (2003)] (L)," *J. Acoust. Soc. Am.* 115 (3), 971 (2004).
6. R. Raspet, W.V. Slaton, W.P. Arnott, H. Moosmiller, "Evaporation - condensation effects on resonate photoacoustics of volatile aerosols," *J. Oceanic Atmos. Technol.*, 20 (5), 685-695 (2003).
7. W.P. Arnott, P.J. Sheridan, J.A. Ogren, R. Raspet, W.V. Slaton, J.L. Hand, S.M. Kreidenweis, J.L. Collett Jr., "Photoacoustic and filter-based ambient aerosol light absorption measurements: Instrument comparisons and the role of relative humidity," *J. Geophys. Res.*, 108 (D1), AAC 15-1 - AAC 15-11 (2003).
8. R. Raspet, W.V. Slaton, C.J. Hickey, R.A. Hiller, "Theory of inert gas condensing vapor thermoacoustics: Propagation equation," *J. Acoust. Soc. Am.* 112, 1414-1422 (2002).
9. W.V. Slaton, R. Raspet, C.J. Hickey, R.A. Hiller, "Theory of inert gas condensing vapor thermoacoustics: Transport equations," *J. Acoust. Soc. Am.* 112, 1422-1430 (2002).

Presentations (“*” denotes undergraduate co-author)

1. W.V. Slaton, “Shape factor characterization of fibrous media with a temperature gradient,” J. Acoust. Soc. Am. 122, 3013 (2007).
2. Holly Smith* and W.V. Slaton, “Thermoacoustic quality factor measurement of a Helmholtz resonator,” J. Acoust. Soc. Am. 122, 3014 (2007).
3. Stephanie Lanier* and W.V. Slaton, “Effect of neck geometry on aeroacoustic excitation of a Helmholtz resonator,” J. Acoust. Soc. Am. 122, 3014 (2007).
4. W.V. Slaton, “An open-air infrasonic thermoacoustic engine,” J. Acoust. Soc. Am. 119, 3414 (2006).
5. W.V. Slaton, Richard Raspet and Robert Hiller, “Numerical modeling of inert gas - condensing vapor thermoacoustic engines,” J. Acoust. Soc. Am. 113, 2268 (2003).
6. W.V. Slaton and J.C.H Zeegers, “An aeroacoustically driven thermoacoustic heat pump,” J. Acoust. Soc. Am. 113, 2269 (2003).
7. W.V. Slaton and J.C.H Zeegers, “Systematic acoustic loading of an aeroacoustic whistle,” J. Acoust. Soc. Am. 113, 2283 (2003).