

# DAVID B. LENHERT

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## Work Address

Mechanical Engineering and Mechanics Department  
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105 Lincoln Street  
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## EDUCATION

### **Ph.D. in Mechanical Engineering, December 2004**

“The Oxidation of JP-8 and its Surrogate in the Low and Intermediate Temperature Regime”

Drexel University, Philadelphia, Pennsylvania  
Advisors: Nicholas P. Cernansky and David L. Miller

### **M.S. in Mechanical Engineering, July 2004**

“The Oxidation of a Gasoline Surrogate in the Negative Temperature Coefficient Region”

Drexel University, Philadelphia, Pennsylvania  
Advisors: Nicholas P. Cernansky and David L. Miller

### **B.S. in Mechanical Engineering, May 1998**

Wichita State University, Wichita, Kansas  
Cumulative GPA 3.75

## RESEARCH EXPERIENCE

### **Drexel University**

Philadelphia, PA

RESEARCH ASST.

Current – July 1998

- Conducted combustion experiments on JP-8, Jet-A, and JP-8 surrogates in the low and intermediate temperature regime at elevated pressures.
- Analyzed intermediate combustion species from 1-pentene, n-heptane, iso-octane, and a mixture of 1-pentene, n-heptane, iso-octane, and toluene.
- Developed a Combustion Analysis Laboratory for intermediate hydrocarbon oxidation identification and quantification. – Partial NSF Support

### **NASA LEWIS RESEARCH CENTER**

Cleveland, OH

RESEARCH ASST.

May 1996 – December 1996

- Conducted 1G flame experiments for baseline analysis of Mir Candle Flame Experiment.
- Analyzed complete burn history of fuel droplets from USML-2 Glovebox.
- Developed computer programs to control experimental data acquisition.
- Developed computer programs to analyze fiber supported droplet combustion.
- Developed digital acquisition and control systems for droplet combustion and candle flames.

### **NATIONAL INSTITUTE FOR AVIATION RESEARCH**

Wichita, KS

COMPOSITE LAB - RESEARCH ASST

April 1997 – June 1998

- Manufactured composite specimens for experimental testing.

## PROFESIONAL ASSOCIATIONS

- Combustion Institute Current - 2002
- ACS Current - 2004
- SAE Current - 1993
- ASME Current - 1998

## AWARDS

- College of Engineering - Koerner Fellowship.
- Hess Engineering Fellowship.
- ASME Old Guard Competition – 2<sup>nd</sup> Place Nationally, 1<sup>st</sup> Place Regionally
- Tau Beta Pi--National Engineering Honor Society  
President 1995 - 1996.
- Sigma Gamma Tau--National Aerospace Engineering Honor Society  
Secretary 1995 - 1996.
- Olive Anne Beech Scholarship in Engineering.

## PUBLICATIONS

Lenhert, D. B., Billmers, R. I., Cernansky, N. P., and Miller, D. L. (2000): "Determination of Partial Oxidation Products in a Pressurized Flow Reactor System using FTIR Spectroscopy with Chemometrics", Paper No. 708, presented at The Pittsburgh Conference 2000, New Orleans Convention Center, Session Name: "Chemometrics III".

Shaw, B. D., I. Aharon, D. B. Lenhert, D. L. Dietrich and F. A. Williams. (2001). Spacelab and Drop Tower Experiments on Reduced Gravity Combustion of Methanol/Dodecanol and Ethanol/Dodecanol Mixture Droplets. *Combustion Science and Technology*, 167, 29-56.

Agosta, A., D. B. Lenhert, D. L. Miller and N. P. Cernansky (2003). Development and Evaluation of a JP-8 Surrogate That Models Preignition Behavior in a Pressurized Flow Reactor. 3rd Joint Meeting of the U.S. Sections of the Combustion Institute, Session Name: Gas Turbine Combustion, Paper Number: E07, Chicago, Illinois, March 16-19, 2003.

Lenhert, D. B., A. R. Khan, N. P. Cernansky, D. L. Miller and K. G. Owens (2003). The Oxidation of an Isf Surrogate and Its Components in the Negative Temperature Coefficient Region. 3rd Joint Meeting of the U.S. Sections of the Combustion Institute, Session Name: RIC Engines III, Paper Number: B16, Chicago, Illinois, March 16-19, 2003.

Lenhert, D. B., D. L. Miller and N. P. Cernansky (2004). Oxidation of JP-8 and Jet-A in the Low and Intermediate Temperature Regime. To be presented at the Central States Section of the Combustion Institute, Austin, Texas, March 21-23, 2004.