

# JONATHAN T. FENTZKE

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## CLEARANCE INFORMATION

US citizen, NOAA/NIST SF-86 contractor clearance-Table Mountain, Colorado

## EDUCATION

**Doctorate of Philosophy in Aerospace Engineering Sciences** August 2009  
University of Colorado at Boulder – Aerospace Engineering Sciences Department Boulder, CO  
“Observational and Modeling Studies of the Meteoric Input Function  
in the Mesosphere and Lower Thermosphere” – Research Advisor: Dr. Diego Janches GPA of 3.97/4.0

**Masters of Engineering in Mechanical Engineering** May 2005  
Rochester Institute of Technology - Mechanical Engineering Department Rochester, NY  
Focus on Non-Linear Dynamics, System Modeling and Controls GPA of 3.88/4.0

**Bachelors of Science in Mechanical Engineering, Minor: Mathematics** May 2005  
Rochester Institute of Technology - Mechanical Engineering Department Rochester, NY  
GPA of 3.74/4.0

## WORK EXPERIENCE (REFERENCES PROVIDED UPON REQUEST)

October 2009 – Present **Northwest Research Associates** Boulder, CO  
Research Scientist **Colorado Research Associates Division**

August 2009 - September 2009 **National Astronomy and Ionospheric Center** Arecibo, PR  
Post-Doctoral Researcher **Arecibo Observatory – Space and Atmospheric Sciences**

November 2005 – July 2009 **Northwest Research Associates** Boulder, CO  
Research Assistant **Colorado Research Associates Division**

July 2007 - June 2008 **National Astronomy and Ionospheric Center** Arecibo, PR  
Pre-Doctoral Fellow **Arecibo Observatory – Space and Atmospheric Sciences**

June 2004 - August 2004 **Samson Enterprises, Ltd.** Petit-de-Grat, NS  
Marine Engineer (Co-op) **Boat Building Division**

May 2003 - August 2003 **Kodak Corporation (Now ITT Industries)** Rochester, NY  
R&D Engineer (Co-op) **Commercial and Government Systems – Precision Optics**

May 2002 - October 2002 **National Fuel Gas Corporation** Buffalo, NY  
Design Engineer (Co-op) **Engineering Division**

## KNOWLEDGE BASE

OS: Unix, Linux, Mac OS X, Windows

Software: Matlab, Simulink, IDL, C, Fortran-77/90, Perl, Visual Basic, LabVIEW, Maple, Mathematica, ANSYS 7, MINITAB, Autodesk Inventor 9, SolidWorks, SDRC I-Deas versions 7, 8, 9, & NX, PTC Pro Engineer, Microsoft Office (Project, Access, Word, Excel, etc.), Adobe Creative Suite, Apple iWork.

Hardware: Lidar, radar, ground based GPS, optical telescopes/receivers, electro-optics, digital I/O cards, multi-channel scalars (MCS) cards, photo-multiplier tubes (PMT's), analog circuits, printers, wireless networks, and servers.

Other: Effective oral and written communication skills, works well in team and solo environments, effective presentation skills, experience fabricating parts and tooling.

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## SELECTED PUBLICATIONS/PRESENTATIONS (PROVIDED ON REQUEST)

Refereed Publications (4-First Author, 5-Total)

Conference Presentations (10+:Oral, 8:Poster)

Fentzke, J.T., Janches, D., Strelnikova, I., and M. Rapp, Meteoric smoke particle properties derived using dual-beam Arecibo UHF observations of D-region spectra during different seasons, *J. Atm. Solar Terr. Phys.*, In Press, 2009 (doi:10.1016/j.jastp.2009.09.002)

Fentzke, J.T. and D. Janches. A semi-empirical model of the contribution from sporadic meteoroid sources on the meteor input function observed at Arecibo. *J. Geophys. Res.*, 113(A03304, doi:10.1029/2007JA012531), 2008.

Fentzke, J.T., D. Janches, and J.J. Sparks, Latitudinal and seasonal variability of the micrometeor input function: A study using model predictions and observations from Arecibo, and PFISR, *J. Atm. Solar Terr. Phys.*, In Press, 2008, doi:10.1016/j.jastp.2008.07.015

Fentzke, J.T., J.S. Friedman, and D. Janches, High Resolution Potassium Meteor Trail Lidar Observations at Arecibo: Preliminary Results, Proceedings 24th ILRC, Boulder, CO, 2008.

D. Janches, S. Close, and J. T. Fentzke. A comparison of detection sensitivity between altair and arecibo meteor observations: Can high power and large aperture radars detect low velocity meteor head-echoes. *Icarus*, Vol. 193, 1, 2008, p. 105, doi:10.1016/j.icarus.2007.08.022

## FUNDED PROPOSALS

### **PI**

Title: CEDAR Postdoc: Meteoric Smoke Studies at High Latitude Using the Poker Flat ISR

Funding Source: University of Colorado Engineering Excellence Fund Mini-Proposal

Total: \$165,336

Duration: 09/01/2009 – 08/31/2011

### **Co-PI**

Title: Laser Communication: Education, Outreach, and Recruiting Tool

Funding Source: University of Colorado Engineering Excellence Fund Mini-Proposal

Total: < \$2,000

Duration: 09/1/2008 – 05/31/09

## TEACHING/PROJECT/VOLUNTEER EXPERIENCE

July 2008 - September 2008

**Democratic National Convention Committee**

Denver, CO

Technology Consultant

**Technology Department**

August 2005 –December 2005

**University of Colorado at Boulder**

Boulder, CO

Course Assistant

**Aerospace Engineering Sciences Department**

Thermodynamics & Aerodynamics, Statics, Structures & Materials

September 2004 - May 2005

**Rochester Institute of Technology**

Rochester, NY

Project Lead

**Senior Design Project**

September 2003 - February 2005

**Rochester Institute of Technology**

Rochester, NY

Teaching Assistant

**Mechanical Engineering Department**

Control Systems, Problem Solving with Computers, Freshman Seminar

## ACADEMIC AWARDS/ SYNERGISTIC ACTIVITIES

AES Dept. Graduate Student Excellence Award – 2008

NSF CEDAR Science Steering Committee (2007-2009)

NAIC Pre-Doctoral Fellowship – 2007

URSI – Associate Member Commission G (2008-Present)

Earn-Learn Apprenticeship – 2005

AGU – Student Member (2005-Present)

Nathaniel Rochester Society Scholar – 2003

ASME – Student member (2000-2005)

RIT Presidential Merit Scholarship – 2000

AIAA – Student member (2000-2005)

RIT/USA Today Quality Cup Medal – 2000

Pi Tau Sigma Mech. Eng. Honor Society-Treasurer (2002-2005)