

Stephen Daniel Oehler

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Objective

I am currently seeking an engineering career in the areas of computational mechanics and structural engineering. I have a proven ability to add value to a team by applying my education and diverse work experience to solving a wide range of engineering problems through computational analysis and lab work. I have honed my team interaction skills through extensive collaboration in the process of writing technical papers and peer reviews. Through my experience as a teacher's assistant and as a team lead in a three-month systems engineering design optimization project, I have developed my leadership skills to prepare me for my role as an engineer.

College Education

Degrees (obtained or pursuing) at Texas A&M University, College Station, TX

Masters of Science in Aerospace Engineering (expected: May 2012) -Current GPR (four-point scale): {3.75}

Bachelors of Science in Aerospace Engineering (Class May 2010) -Ending GPR (four-point scale): {3.40}

Software skills:

- Abaqus CAE & Standard [very proficient]	- Python, Fortran, C/C++ languages
- Star-CCM+ [certified trained, proficient]	- Solidworks, AutoCAD
- ModelCenter	- Maplesoft
- Microsoft Office Suite	- MATLab

Lab experience:

- SEM/TEM	- Metallographic microscopy
- Various Hardness Test rigs	- Cyclic salt (corrosion) chambers
- Fatigue test frames	

Work Experience

Fall 2010 - Present **Shape Memory Alloy Research Team, College Station, Texas (Full Time)**

Mentor/Contact: Dr. Darren Hartl and Dr. Dimitris Lagoudas

Roles and Tasks:

- **Primary Work** - Graduate research assistant; Abaqus Finite Element Analysis (FEA) modeling and optimization of shape memory alloy (SMA) actuators to improve cyclic frequency for use in aerospace applications. Development of Computational Fluid Dynamics (CFD) analysis tools for SMAs and interfacing tools for other software components.
- **Authored (Au.) & co-authored (Co.) technical papers:**
 - *Analysis and Optimization of Improved Hybrid SMA Flexures for High Rate Actuation* ([Au.] SPIE 2011 conf.)
 - *Bringing Aerospace Applications Into a Project-Based First-Year Engineering Course* ([Au.] ASEE 2011 conf.)
 - *Design Optimization of a Shape Memory Alloy Actuated Morphing Aerostructure* ([Au.] SMASIS 2011 conf.)
 - *Roundrobin SMA Modeling* ([Co.] ESOMAT 2009 conf.)
 - *Constitutive Modeling of Phase Transformation and Plastic Yield in SMAs:...* ([Co.] ESOMAT 2009 conf.)
- **Secondary Work** - Teaching assistant: extended smart materials curriculum to freshman engineering classes with custom projects.

Summers 2009 & 2010 **Shape Memory Alloy Research Team, College Station, Texas (Full Time)**

Mentor/Contact: Dr. Darren Hartl and Dr. Dimitris Lagoudas

Roles and Tasks:

- **Summer 2010 Work** - Research Experience for Undergraduates (REU); research compatible CFD tools for use in modeling fluid-structure interaction in SMA applications.
- **Summer 2009 Work** - FEA Modeling of SMA spring and wire geometries for use as smart actuators; international round-robin project with results presented by mentor/manager Dr. Darren Hartl in his thesis defense and at ESOMAT conference in Germany.

Summer 2008 **NASA, Johnson Space Center, Texas (Full Time)**

Mentor/Contact: David Shindo/Scott Forth

Roles and Tasks:

- Corrosion-fatigue analysis of metal materials in lab setting; used metallographs, scanning electron microscopes, stereoscopes, and optical and digital micrometers.
- Processed metallic "dog bone" specimens for load frame testing; fatigue-tested corroded specimens.
- Pressure vessel prediction of time-to-failure for ongoing experiments.
- Evaluated the effect of shot-peen surface treatment penetration depth of metals using Vickers Hardness testing.
- Tested new laser-marking procedure in order to certify it for NASA flight-safety specifications.

Summer 2007 **PushCorp, Dallas, Texas (Full Time)**

Mentor/Contact: Dr. Edwin Erlbacher

Roles and Tasks:

- CAD modeling of car manufacturing servos and mountings using SolidWorks and AutoCAD.
- Designed shipping packaging and structural supports for storage of excess materials.

Mentor/contact information available upon request.

See reverse for more information

Extracurricular Activities

Organization (Time)

- Dormitory Peer Advisor (Fall 2007)
- Civil Air Patrol (2001-2006)
- Guitarist for local church (2006-present)
- The Big Event (2008) (Texas A&M Volunteer Service)
- The Big Event (2007) (Texas A&M Volunteer Service)
- Texas High School Aerospace Scholars, NASA (2005)
- National Youth Leadership Forum (2005)

Awards/Recognition

Award

- Lechner Fellowship (One-time stipend, Fall 2010)
- Dean's List (3.8+ GPR for Fall 2009)
- Red Service Ribbon (2+ years in Civil Air Patrol)
- Gen. Mitchell Award/Promotion (Civil Air Patrol)
- Who's Who Award (Recognition)
- USAA National Science Merit (Recognition)
- High School honors graduate (top 10%)