



**Evan T. Alexander**  
*Sr. Thermal Engineer*  
ealexander@vertexaerospace.com

## EDUCATION

- December 2015 **M.E. Aerospace Systems**  
*University of Maryland, College Park*
- May 2011 **B.S. Aerospace Engineering**  
*University of Maryland, College Park*

## EXPERIENCE

- 8/21 – Present **TSIS-2**  
*Thermal Subject Matter Expert*
- Responsible for supporting the TSIS-2 thermal analyst in developing a detailed thermal model of the TSIS-2 spacecraft
  - Responsible for developing battery Thermal Desktop™ model and correlating it with data provided by the vendor
  - Responsible for reviewing spacecraft level Thermal Desktop™ model analysis performed by TSIS-2 thermal analyst
  - Responsible for reviewing thermal testing plans to ensure their compliance with requirement verification as well as Goddard's General Environmental Verification Standards (GEVS)
  - Used knowledge of thermal coatings, thermal control system (TCS) hardware and thermal design techniques to help optimize TCS
  - Support thermal and spacecraft subsystem engineering meetings, trade studies and development tests
  - Knowledge of thermal coatings, thermal control system (TCS) hardware and thermal design techniques
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- 1/16 - Present **OSAM-1**  
*Senior Thermal Engineer*
- Develop Thermal Desktop™ models of OSAM-1 Visual Distribution System Unit (VDSU), Vision Subsystem (VSS), Makersat, tools and tool drive systems
  - Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for the OSAM-1 Advanced Tool Drive System (ATDS)
  - Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for three (3) OSAM-1 tools and seven (7) adaptors as well as their stowage compartments
  - Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for the OSAM-1 VDSU
  - Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for the OSAM-1 VSS



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- Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for the OSAM-1 Makersat
- Support thermal and spacecraft subsystem engineering meetings, trade studies and development tests
- Knowledge of thermal coatings, thermal control system (TCS) hardware and thermal design techniques
- Prepared and presented TCS thermal design to project team

1/16 – Present     **Deep Atmospheric Investigation of Noble gases, Chemistry, and Imaging (DAVINCI)**

*Senior Thermal Engineer*

- Develop Thermal Desktop™ models of the spacecraft
- Responsible for performing the observatory level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews
- Responsible for performing the instrument level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews for the Venus Mass Spectrometer (VMS)
- Support thermal and spacecraft subsystem engineering meetings, trade studies and development tests
- Knowledge of thermal coatings, thermal control system (TCS) hardware and thermal design techniques
- Prepared and presented TCS thermal design to proposal team

7/15 – 12/15     **PRobe Of Biosignatures in the Europa Exosphere (PROBEE)**

*Thermal Engineer*

- Develop Thermal Desktop™ models of the spacecraft
- Responsible for performing the observatory level Thermal Desktop™ model analysis and presenting the thermal analysis results at engineering peer reviews
- Support thermal and spacecraft subsystem engineering meetings, trade studies and development tests
- Knowledge of thermal coatings, thermal control system (TCS) hardware and thermal design techniques

Prepared and presented TCS thermal design to proposal team

01/15     **Satellite Design**

*Team Project Leader*

- Assisted in the design of an Earth science satellite
- Served as communication and command and data handling (C&DH) Team Lead
- Managed tasks, planned meetings, and made schedules for the team
  - Led the trade studies for all levels of the subsystem design

01/14 – 05/14     **Launch and Entry Vehicle Project**

- Created solid models of structural components using Pro/E
- Presented trade studies to validate design choices
- Researched thermal loading during entry environments



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- Designed optimal orbit during transit from Earth parking orbit to Mars atmospheric entry  
Performed cost analysis to achieve a minimum budget for both recurring and non-recurring costs

09/13 – 12/13

**CubeSat Thermal Design Project**

- Presented trade studies to validate design choices
- Designed thermal control systems for satellite
- Designed optimal orbit during transit from Earth parking orbit to Mars atmospheric entry

Performed cost analysis to achieve a minimum budget for both recurring and non-recurring costs

10/11 – 07/15

**Corrosion and Materials Engineer**

*DACCO SCI, Inc. Columbia, MD*

- Created design drawings using AutoCAD
- Successfully worked as part of a team
- Performed the role as lead engineer on several projects Developed testing strategies to determine the condition and usefulness of materials
- Developed designs incorporating technical standards and design specifications put forth by the contractor

Collected and relayed data to contractors via personally written technical reports

**SKILLS**

- Proficient in Thermal Desktop™ and SINDA/FLUINT
- Proficient in AutoCAD, Pro-E, MATLAB, C++
- Proficient in Microsoft Word, Excel and PowerPoint

**RELATED COURSEWORK**

- Finite Element Analysis, Elec. & Dig. Circuit Lab, Programming, Product Eng. & Manufacturing, Fluid Mechanics, Dynamics, Thermodynamics, Electronics