Santino V. Rosanova
Sr. Thermal Engineer
srosanova@vertexaerospace.com

EDUCATION

May 2012 **B.S. Physics**
University of Mary Washington, Fredericksburg, VA

EXPERIENCE

1/19 – Present **Restore-L/OSAM-1**
NASA/Goddard Space Flight Center

- Lead thermal engineer for Restore-L Robot Arm Subsystem
- Performed detailed gearmotor thermal analysis using Thermal DesktopTM
- Write TVAC and TBAL test procedures for Robot Arm components
- Oversaw completion of multiple TVAC and TBAL tests
- Performed board level analysis on multiple PCBs located within Robot Arm subsystem
- Develop MLI design for individual actuator components and composite tube structures of the Robotic Arm
- Support meetings with various vendors for Robot Arm deliverable components to discuss thermal design of those components and to plan test campaigns

1/18-Present **Innoflight Radio Assemblies**
Innoflight, LLC

- Perform detailed board level thermal analysis on multi-PCB Radio assemblies
- Aided in the design of radio assembly housings to better facilitate heat transfer out of the PCBs
- Performed model reductions of detailed assemblies for integration into system level thermal models

1/22-Present **IMAP-Hi and SWE Instruments**
Southwest Research Institute (SwRI)

- Perform detailed thermal analysis of IMAP-Hi and SWE instruments on the IMAP Spacecraft
- Performed model reduction of detail instrument level thermal models
- Perform trade studies of instrument thermal designs and performed analysis to predict effects of spacecraft thermal design on respective instruments
- Performed model integration into IMAP Spacecraft Thermal model

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10/17 – 1/19 **Europa Clipper**
Johns Hopkins University/Applied Physics Laboratory

- Develop Thermal DesktopTM models of Europa Clipper Propulsion Module (PM)
- Develop thermal shields for propulsion lines to alleviate the need for heaters
- Ran steady state and transient cases at Venus and Jupiter using Thermal DesktopTM
- Put together results packages detailing thermal analysis using Microsoft Excel and Microsoft PowerPoint in support of Europa Clipper Propulsion Module PDR and CDR

- Support ground level testing of pumped fluid loop throughout engine brackets
- Performed correlation of Thermal DesktopTM model of Rocket Engine Models to test data of pumped fluid loop testing
- Develop thermal model using Thermal DesktopTM of certain hosted components on Propulsion Module
- Worked closely with engineers from various NASA and industry centers to develop Europa Clipper system level thermal model
- Develop MLI design for Propulsion Module (PM)
- Conducted sensitivity studies concerning PM thermal design

11/18 - Present **DART HGA / APL**
Johns Hopkins University/Applied Physics Laboratory

- Develop detailed Thermal DesktopTM models of DART High Gain Antenna (HGA)
- Performed analysis to determine maximum temperature of inner foam layer of HGA
- Worked closely with RF Engineers to determine volumetric power loss through HGA layer stack up

3/16 - Present **Europa Clipper / MASPEX**
Southwest Research Institute (SwRI)

- Develop detailed and reduced Thermal DesktopTM models of MASPEX instrument
- Develop MASPEX instrument heater design and MLI design

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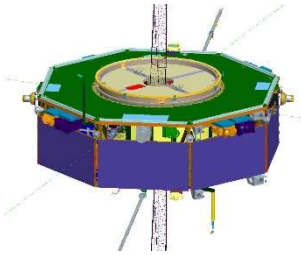
- Performed correlation to test data of MASPEX Source block and accompanying lenses
- Worked with Europa Clipper Spacecraft thermal team to integrate instrument model into the system level thermal model

6/12 – 10/17 **Tracking and Data Relay Satellite System (TDRSS)**
NASA/Goddard Space Flight Center

- Develop Thermal DesktopTM models of the spacecraft and components
- Perform flight correlation of TDRS 3-7 and TDRS 8-10 using Thermal DesktopTM thermal models
- Support TDRS-K pre-flight thermal model evaluation
- Support TDRS-K post-flight model correlation
- Developed addional thermal model components using Thermal DesktopTM to include additional fidelity
- Support on-orbit operations, on-orbit/ground testing, analysis & support of on-orbit anomaly investigations, etc.

4/12 – 6/15 **Magnetospheric Multi-Scale (MMS) Mission**
NASA/Goddard Space Flight Center

- Support observatory integration of thermal hardware that includes:
- Multi-Layer Insulation (MLI) Blankets
- Flight temperature sensors, heaters and thermostats
- Thermal isolators
- GSE heaters and temperature sensors
- Develop Work Order Authorization (WOA)
- Thermal Hardware installation procedures
- Provide observatory Thermal Vacuum (TV) and Thermal Balance (TB) test support



SKILLS

- Proficient in Thermal Desktop™ and SINDA/FLUINT
- Proficient in Microsoft Office (Excel, Word & PowerPoint)

SPECIAL ACHIEVMENTS

- University of Mary Washington Baseball Team (2008-2012) Captain 2012

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- Served on Student Athletic Advisory Committee as a Representative for the UMW Baseball Team
- Prince George's County Youth Volunteer of the Year (2008)
- Daily Points of Light Award – 2009
- Father Augustine Derricks Award (DeMatha) – 2008