

Nicholas M. Teti

Senior Thermal (Chief) Engineer

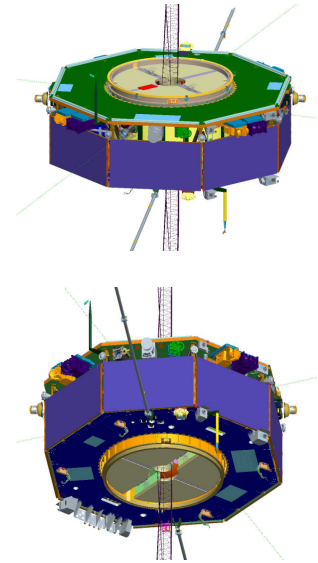
Email: nick@vertexaerospace.com

AEROSPACE/SENIOR THERMAL (CHIEF) ENGINEER

EXPERIENCE

5/07-PRESENT **Magnetospheric Multi-Scale (MMS) Mission Observatory Thermal Lead**

- Responsible for the spacecraft and observatory thermal design, analysis, schedule, integration and verification for the four MMS observatories
- Define, document and manage lower level thermal requirements
- Review component level, instrument level and observatory level Thermal Desktop™ thermal models and thermal analysis reports
- Develop thermal subsystem specifications, test plans, test procedures and test reports
- Support systems engineering meetings, trade studies and development tests
- Introduce design concepts, thermal control options and negotiate interfaces between subsystems
- Review component, instrument and observatory thermal interface control drawings and documents (TICD)
- Specify flight thermal control system (TCS) hardware
- Status cost and schedules to support earned value reporting
- Present thermal design and system design reviews



2/02-PRESENT **Tracking Data & Relay Satellite System (TDRSS) Sustaining Engineering Thermal Support**

- Support on-orbit operations, on-orbit/ground testing, analysis & support of on-orbit anomaly investigations, etc
- Support fleet status reviews and other reviews, including those at White Sands Complex (WSC).
- Provide insight into the development of strategies to extend the life of the existing TDRSS fleet
- On-orbit thermal subsystem performance evaluation and trending analysis for TDRS H, I, J
- Deployments and acquisitions support from WSC for new TDRS satellites placed in orbit
- Monitor and provide thermal status for all TDRS satellites
- Develop thermal subsystem data trending reports
- Manage development and flight correlation of TDRS 3-7 and TDRS 8-10 Thermal Desktop™ thermal models
- Senior Thermal Engineering support for the TDRS K/L Continuation effort as a member of the standing review board (SRB)



1/11-4/15/12

Joint Polar Satellite System (JPSS)

Observatory Thermal Manager

- Responsible for oversight of the JPSS observatory thermal design, analysis, schedule, integration and verification
- Review, track and manage thermal requirements
- Review component level, instrument level and observatory level Thermal Desktop™ thermal models and thermal analysis reports
- Review thermal subsystem specifications, test plans, test procedures and test reports
- Support systems engineering meetings, trade studies and development tests



5/89 - 4/08

ATK/SWALES AEROSPACE, BELTSVILLE, MARYLAND

Thermal Systems Engineering Manager

Senior Thermal Engineer

JOB RELATED DUTIES:

- Specify Passive and Active Thermal Control System (TCS) for spacecraft and instruments
- Prepare and present all phases of thermal design at design reviews and in proposals
- Select and procure thermal flight and test hardware, thermal coatings and materials
- Perform payload, instrument, box and circuit board level thermal design and analysis
- Extensive knowledge of thermal software: SINDA, TRASYS, TSS, SSPTA and Thermal Desktop
- Develop and support TV/TB test plans, procedures and launch ops for ELV and Shuttle missions
- Develop and manage tasks, schedules, cost analysis, test plans, procedures and work orders.
- Review, Test and Specify thermal analysis software
- Mentor junior and mid-level thermal engineers
- **Thermal Systems Engineering Management Responsibilities**
 - Review and provide direction for Performance Appraisals and Development Plans
 - Manage and monitor task assignments including manpower updates and projections
 - Provide technical direction to junior engineers and project engineering teams
 - Support management strategy meetings
 - Perform selection and recommendation for hiring new employees to support new and existing programs

9/05 – 4/08

(Phase II

Awarded in
5/2006)

Operationally Responsive Spacecraft Modular Bus (ORSMB)

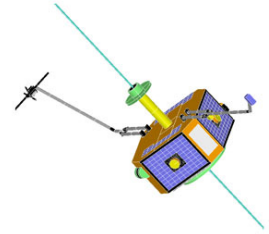
- Thermal System Lead for Phase I – Sr. oversight for Phase II
- Jr. Thermal Engineer oversight
- Presented PDR thermal design to AFRL
- Developed Thermal Desktop™ and SINDA/FLUINT thermal models
- Supported development of Plug-N-Play 1-Wire temperature sensor and 1-Wire heater switch design



5/02 – 2/07

THEMIS – NASA MIDEX

- Developed Conceptual Thermal Design for Proposal
- Developed TSS and SINDA/FLUINT Proposal Thermal Model
- Predicted Heater Power Requirements for long eclipses
- Developed Proposal text write-up and graphic images



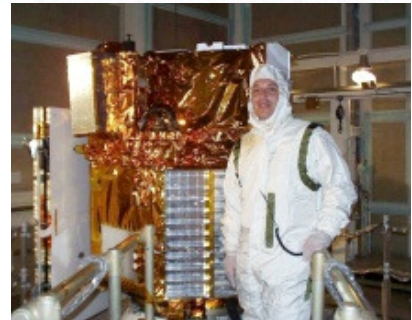
THEMIS Awarded

- Mentor Jr. Thermal Engineer as SC Thermal Lead
- Reviewed Thermal Desktop™ and SINDA flight models
- Performed peer reviews
- Pre-Ship and Pre-Environmental Review Support

5/96 - 1/01

Lead Thermal Engineer, Earth Observing-1

- ELV Launch on 11/21/00
- Developed the TV Test Plan and Procedure “Earth Observing-1 (EO-1) Spacecraft Thermal Vacuum Test II Procedure “
- Designed/Analyzed/Installed Test Setup
- Developed ISO 9001 procedures for installing and testing heaters, thermostats, thermistors and silver teflon for radiators
- Completed EO-1 Thermal Subsystem Final Report – SAI-RPT-322, Rev A (8/2000)
- Launch Site Operations (8/2000 – 11/2000)
 - Final closeouts on launch pad
 - Launch Support (November – December 2000)
 - S/C thermal systems working flawlessly
- Post Flight Thermal Status Report
 - Thermal subsystem performing as designed Launch +2 years
- Thermal Louver installation and final spacecraft checkout at the launch site.
- EO-1 mission officially ended on 11/21/01 after completing its scheduled 1-year mission. However, its flawless performance has allowed NASA to continue the mission into FY ‘10+.
- Trending temperatures for calorimeters Z-93 and LA-II White Paint



EDUCATION

1985 B.S.M.E.

UNIVERSITY OF MARYLAND, COLLEGE PARK
B.S. MECHANICAL ENGINEERING

SPECIAL TRAINING

- Knowledge of software codes including Fortran, Visual Basic, HTML, Perl, PHP, ASP and C/C++.

SPECIAL ACHIEVMENT

- In 2011, selection to receive the SAE Forest R. McFarland Award. This Award recognizes individuals for their outstanding contributions toward the work of the SAE Engineering Meetings Board (EMB) in the planning, development, and dissemination of technical information through technical meetings, conferences and professional development programs or outstanding contributions to the EMB operations in facilitating or enhancing the interchange of technical information.
- In 1989, obtained a copyright for the Simplified Space Payload Thermal Analyzer (SSPTA), called SSPTA/386. A radiation and orbital heating rate thermal analysis software program that is currently being used in both government and industry. In 1995, the software was upgraded and renamed to "SSPTA for Windows".

TECHNICAL PAPERS

- Teti, Nicholas M, "Innovative Approach Enabled the Retirement of TDRS-1 Compliant with NASA Orbital Debris Requirements", IEEE Aerospace Conference AIAA, Technical Co-Sponsor March 5-12, 2011, Big Sky, Montana
- Teti, Nicholas M, "Earth Observing-1 Technology Validation: Low Absorptance Inorganic White Paint AZW/LA-II", 33rd International Conference on Environmental Systems, July 2003
- Teti, Nicholas M, "Earth Observing-1 Technology Validation: Carbon-Carbon Radiator Panel (CCRP)", 33rd International Conference on Environmental Systems, July 2003
- Teti, Nicholas M., Krein, Steve, "EO-1 Spacecraft Thermal Vacuum Testing: An Innovative Approach to Cost Effective Verification", 30th International Conference on Environmental Systems, July 2000
- Teti, Nicholas M., "EO-1 Spacecraft Thermal Design and Analysis: Using the Thermal Synthesis System (TSS) and SINDA/FLUINT", 30th International Conference on Environmental Systems, July 2000
- Teti, Nicholas M., "Spartan 207 Inflatable Antenna Experiment Thermal Analysis Using Multiple Submodels with SINDA '85", 27th International Conference on Environmental Systems, July 1998
- Teti, Nicholas M., "Simplified Space Payload Thermal Analyzer for Windows 95", 26th International Conference on Environmental Systems, July 1996
- Teti, Nicholas M., Birsa, Brent D. "Geometric Archetype Design System (GADS)", 25th International Conference on Environmental Systems, July 1995
- Teti, Nicholas M., "Microcomputer Spacecraft Thermal Analysis Routines (MSTAR), Phase I & II: The Geometric Model Generator", 24th International Conference on Environmental Systems and 5th European Symposium on Space Environmental and Control Systems, June 1994
- Teti, Nicholas M., "Microcomputer Spacecraft Thermal Analysis Routines (MSTAR), Phase I: The User Interface", 23rd International Conference on Environmental Systems, July 1993.
- Teti, Nicholas M., "Spacecraft Thermal Analysis Using the Simplified Space Payload Thermal Analyzer (SSPTA)", 4th European Symposium on Space Environmental and Control Systems, ESA SP-324, October 1991

INTERESTS

High School Reunion Committee Chairman (10, 15, 20, 25 and 30), University of Maryland sporting events, family, boating, sailing, water sports, biking, golf.

JOB RELATED

Secret Clearance granted May 2002

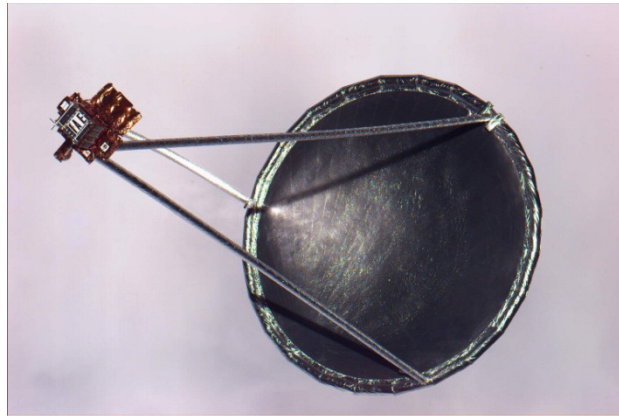
RELATED EXPERIENCE

NASA / Goddard Space Flight Center, Greenbelt, Maryland
Thermal Engineering Branch

6/85 - 5/89

Thermal Engineer

- Lead Thermal Engineer on Spartan 202
- STS-77 Shuttle Payload



1982-1985

Thermal Engineering Co-Op National Bureau of Standards (NBS)

Thermal Technology Division

- Support R-Value Verification Testing
- Develop Test Plans and Procedures
- Data Reduction