



# “PRC STRATEGIC PLAN 2019”

**Speaker: Dr. Dale Thomas**

Deputy Director, UAH Propulsion Research Center  
Director, Alabama Space Grant Consortium  
Eminent Scholar and Professor of Systems Engineering

## Abstract

The UAH Propulsion Research Center (PRC) is in its 28<sup>th</sup> year at the University of Alabama in Huntsville (UAH). The mission of the Propulsion Research Center is to provide an environment that connects the academic research community with the needs and concerns of the propulsion community while promoting an interdisciplinary approach to solving propulsion problems. This presentation summarizes recent metrics from academic and research programs. The emphasis is on describing a PRC Strategic Plan derived from a Strengths-Weaknesses-Opportunities-Threats (SWOT) evaluation for the UAH Propulsion Research Center. Total research expenditures from fifteen different agencies are anticipated to rise to \$2.5 million dollars in the 2019 fiscal year. This represents a 40% increase from FY 18 and a doubling of research expenditure over the past five years. PRC researchers published over 80 papers last year and mentored the completion of eight Ph.D., fourteen master's students, and numerous undergraduate degrees. The PRC continues to be a resource to perform research and workforce development in propulsion and energy. This material also presented in [AIAA Paper 2019-3891](#).



## Biographical Sketch

UAH Alumnus (1988) Dr. L. Dale Thomas joined ISEEM in Fall 2015 as a full professor and was Board-appointed as the Eminent Scholar in Systems Engineering. Within a year, he established the UAH Complex Systems Integration Laboratory (CSIL), UAH's advanced systems engineering research facility focusing on Model-Based Systems Engineering. Among several projects, the lab is assisting the NASA Marshall Space Flight Center (MSFC) with cube satellites to be deployed during the first Space Launch System in 2019. In July 2017, he was appointed as the Deputy Director of the UAH Propulsion Research Center (PRC). In that role, he leads the Propulsion Systems Engineering research team and engages in strategic planning activities.

In July 2017, Dr. Thomas was appointed Director of the Alabama Space Grant Consortium, the congress-created body that implements a portfolio of programs in research, education and public service projects in science and engineering. Dr. Thomas' core objective in assuming the role is to strengthen ties between academic researchers and industry.

*There will be guided tours of our Johnson Research Center Laboratories following the luncheon.*

**PRC Student Luncheon - Faculty/Industry Mentoring**  
**UAH Propulsion Research Center**  
 Friday, September 13, 2019



**UAH Propulsion Research Center**  
 Prof. R. Frederick, PhD, Director  
 Prof. D. Thomas, PhD, Deputy Director  
<https://www.uah.edu/prc>

A. Edmondson, MBA  
 Research Prog. Administrator/Budget Analyst  
 G. Cromartie, Program Coordinator; J. Crews, SS4

**Eminent Scholar In Propulsion**  
 Prof. P. Ligrani, PhD

**Aerospace Propulsion Strategic Planning**  
 Prof. D. Thomas, PhD, Eminent Scholar in Systems Engineering  
 Prof. J. Swain, PhD, Chair of ISEEM Department; Prof. S. Mahalingam, PhD,  
 Dean of the College of Engineering

**Propulsion Laboratory and Safety**  
 Dr. D. Lineberry, PhD, Laboratory Operations  
 T. Hall, Test Engineer

**Energy & Power Systems**  
 Prof. P. Ligrani, PhD

**Fusion Propulsion & Power**  
 Prof. J. Cassibry, PhD

**Plasmas & Combustion**  
 Prof. G. Xu, PhD

**Propulsion Systems Integration**  
 Prof. D. Thomas, PhD

**Computational Modeling**  
 Prof. S. Rani, PhD

**Aerospace Materials & Structures**  
 Prof. G. Nelson, PhD

**Propellants & Energetics**  
 Prof. R. Frederick, PhD

**Propulsion System Technology Test-bed**  
 Dr. D. Lineberry, PhD

- J. Blackmon, PhD
- P. Collopy, PhD
- K. Frendi, PhD
- C. Kang, PhD
- S. Mahalingam, PhD
- G. Nelson, PhD
- S. Rani, PhD
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- A. Click, GRA
- H. Collopy, GRA
- M. Sampson, GRA
- S. R. Vanga, GRA
- 
- J. Autrey, UGA
- M. Cox, UGA
- 
- A. Fairbanks, UGA
- K. Goethals, UGA
- J. Knox, UGA
- C. Larson, UGA
- E. McNabb, UGA
- J. Moseley, UGA
- A. Pippert, UGA

- W. Seidler, OCE
- K. Schillo, OCE
- P. Giddens, OCE
- 
- E. Burns, SS4
- S. Westrich, SS4
- 
- P. Darakorn, GRA
- T. Englestad, PTGS
- D. Hewitt, PTGS
- S. Kumar, GRA
- M. Rodriguez, PTGS
- N. Schilling, GRA
- R. Tackett, PTGS
- B. Taylor, PTGS
- S. Thompson, PTGS
- A. Vyas, GRA
- B. Winterling, GRA

- J. Cassibry, PhD
- K. Frendi, PhD
- 
- N. Anderson PTGS
- W. Bickett, PTGS
- 
- R. Gott, GRA
- M. Spaulding GRA
- A. Walsten, GRA
- Z. White, GRA
- 
- M. Amara, UGA
- D. Brick, UGA
- S. Kaye, UAGM
- N. Laya, UGA
- S. Perkins, UGA
- B. Williams, UGA

- J. Cassibry, PhD
- 
- S. Godshall, GRA
- L. Grumbach, PTGS
- V. Lopez, GRA
- 
- N. Morris, GRA
- D. Nikitav, GRA
- S. Raghu, GTA
- S. Rawlins, GRA
- E. Wood, GRA
- 
- Rountree, UGA
- A. Shah, UGA

- K. Frendi, PhD
- C. Kang, PhD
- S. Mahalingam, PhD
- S. Ravindran, PhD
- B. Shotorban, PhD
- 
- A. Wilson, GTA
- A. Avad, GRA
- S. Basu, GRA

- K. Hazeli, PhD
- M. Lin, PhD
- J. Schneider, PhD
- G. Wang, PhD
- 
- P. Anantwar, GRA
- B. Bahrambabamiri, GRA
- J. Buckley, GRA
- J. Indeck, GRA
- D. Sandlin, PTGS
- 
- A. Colbert, UGA
- T. Colbert, UGA

- J. Baird, PhD
- M. Banish, PhD
- J. Blackmon, PhD
- D. Lineberry, PhD
- G. Xu, PhD
- 
- W. Knuth, OCE
- S. Williams, OCE
- 
- C. Blankenship, PTGS
- S. Bluestone, PTGS
- D. Jones, GRA
- D. Haring, GRA
- S. Kumar, GTA
- A. Patel, GRA
- R. Pereira, GTA
- I. Ranade, GTA
- 
- B. Burnside, UGA
- T. Salverson, UGA

- J. Winningham, M.S.,CSE
- 
- B. Ha, GTA
- E. Unruh, GRA
- W. Hankins, GRA
- 
- J. Agnew, UGA
- D. Battle, UGA
- M. Costa, UGA
- D. Long, UGA
- J. Soeung, UGA
- J. Venters, UGA
- MAE 490/493 Students---
- K. Caruso Jr., P. Day,
- J. Hart, M. Hockensmith,
- C. Hyder, J. Jacobs,
- R. Jordan, B. Lucke,
- R. Luke II, P. Martin,
- J. McIntosh, J. Moseley,
- R. O'Kraski, N. Roman,
- T. Salverson, W. Snyder,
- J. Zike

GRA=Graduate Research Assistant; GTA=Graduate Teaching Assistant; OCE=On-Call Employee; Post-Doctoral Fellow;  
 PTGS=Part-Time Graduate Student; RI=Research Institute; SS3=Student Specialist III; SS4=Student Specialist IV; SSS=Student Specialist V  
 UGA=Undergraduate Assistant, UAGM=Undergraduate Matrix  
 08/21/2019