

Thermophysics Award

All information about the AIAA Thermophysics Award, can be found at <https://www.aiaa.org/get-involved/honors-awards/awards/award/award-thermophysics-award> and the nomination form can be downloaded from the AIAA website [here](#). Nominations are generally accepted from July 1st to October 1st annually.

Previous AIAA Thermophysics Award Recipients:

2021

- **Dr Zhuomin Zhang**
Georgia Institute of Technology
Awarded
Award: 2021 AIAA Thermophysics Award
AIAA Citation: In recognition of outstanding contributions to microscale and nanoscale thermophysics and the understanding of interactions between thermal radiation and micro/nanostructured materials.

2020

- **Prof Tom I-Ping Shih**
Purdue University, School of Aeronautics and Astronautics
Awarded
Award: 2019 Thermophysics Award
AIAA Citation: "For significant contributions in the development and application of computational design tools for the thermal management of gas turbines to improve efficiency and service life."

2018

- **Dr Iain D Boyd**
University of Michigan
Awarded
Award: 2018 Thermophysics Award

AIAA Citation: For contributions to the development and application of detailed physical models and advanced computational methods for numerical simulation of gas flows in thermochemical nonequilibrium.

2017

- **Dr Bruce L Drolen**

Awarded

AIAA Citation: For outstanding contributions to thermal engineering particularly relating to heat pipes, pumped fluid loops, aircraft thermal management and other heat transport devices.

2016

- **Mr George R Cunningham**

Awarded

AIAA Citation: For lifelong contributions to the development of thermal protection systems, multi-layer cryogenic insulation systems, and radiative heat transfer analysis techniques

2015

- **Prof Sumanta Acharya**

Illinois Institute of Technology

Awarded

Award: -

AIAA Citation: For significant contributions to gas turbine heat transfer and aerodynamics, investigation of novel cooling schemes and application of emerging computational methodologies for gas turbine cooling.

2014

- **Dr Van P Carey**

University of California

Awarded

AIAA Citation: For seminal and sustained contributions to the field of liquid-vapor phase change thermophysics, particularly near-interface nano-scale and micro-scale phenomena, and transport in liquid-vapor systems.

2013

- **Dr G E Schneider**

University of Waterloo

Awarded

AIAA Citation: For outstanding, pioneering, and sustained contributions in developing simple and advanced numerical methods for computational heat transfer, algebraic equation solvers, phase change energy transport, all-speed flows, and conduction heat transfer.

2012

- **Bernard Laub**

NASA-Ames

Awarded

AIAA Citation: For sustained accomplishments in the development, testing, and modeling of ablative thermal protection materials and extraordinary contributions in mentoring of colleagues within the field

2011

- **Prof Ramesh K Agarwal**

Washington University in St Louis

Awarded

AIAA Citation: For fundamental and applied contributions to hypersonic aerodynamics through development of industrial grade Navier-Stokes, Burnett and Boltzmann Codes for Chemically Reacting and Rarefied Flows, and for impact on the design of real-world aerospace vehicles.

2010

- **Dr Datta V Gaitonde**

The Ohio State University

Awarded

AIAA Citation: In recognition of technical expertise and innovation, leadership within the international thermophysics community, and commitment to the development of researchers across government, industry and academia.

2009

- **Mr. E Vincent Zoby**
NASA-Langley Research Center
Awarded
AIAA Citation: In recognition of significant and sustained contributions to the thermophysics community via the development of accurate engineering codes for aerothermodynamics prediction and the mentoring of aerospace engineers.

2008

- **Prof Michael F Modest**
University of California, Merced
Awarded
AIAA Citation: In recognition of his contributions in thermal radiation and laser processing, as well as his seminal contributions to modeling and measurement of nongray gas-radiation properties.

2007

- **Prof Graham V Candler**
University of Minnesota
Awarded
AIAA Citation: For outstanding contributions toward development, validation, and application of state-of-the-art numerical techniques for high temperature gas dynamics flows in thermochemical nonequilibrium.

2006

- **Dr Carl D Scott**
Awarded
AIAA Citation: For pioneering in the investigation, understanding, and education of the effects of surface chemistry on the aerothermodynamic heating of re-entering spacecraft at hypersonic velocities.

2005

- **Dr Daniel C Reda**

Awarded

AIAA Citation: For pioneering research on boundary layer transition for hypersonic flows over ablative thermal-protection-system materials and the advancement of ballistics ranges.

2004

- **Prof Je-Chin Han**

Texas A&M University

Awarded

AIAA Citation: For significant contributions to heat transfer augmentation in gas turbine blade cooling, heat transfer in rotating flows, and film cooling in unsteady high turbulent flows

2003

- **Dr Ping Cheng**

Shanghai Jiaotong University

Awarded

AIAA Citation: For significant contributions to radiative heat transfer, porous media heat transfer, reciprocating flow and oscillatory heat transfer and for service to the AIAA Journal of Thermophysics and Heat Transfer

2002

- **Dr Frederick G Blottner**

Consultant

Awarded

AIAA Citation: For a distinguished career and outstanding contributions towards development of accurate numerical techniques for high-speed, chemically reacting boundary layer and Navier-Stokes flows which form the basis for modern compressible fluid dynamics and heat transfer prediction techniques for supersonic and hypersonic flows; and through the mentoring of young engineers

2001

- **Dr Suren N Tiwari**
Old Dominion University
Awarded
AIAA Citation: For significant contributions in analysis of radiation heat transfer, combustion, thermal protection of entry vehicles, and atmospheric radiation, and in education thermal sciences

1999

- **Dr Hassan A Hassan**
North Carolina State University
Awarded
AIAA Citation: For contributions to improving physical models in direct simulation Monte Carlo methods and hybrid Monte Carlo/Navier-Stokes solvers and for the development of a transition/turbulence model for the prediction of onset and extent of transition on flight vehicles

1998

- **Prof Amir Faghri**
University of Connecticut
Awarded
AIAA Citation: For significant and sustained contributions in developing both simple and advanced thermophysical models—notably in evaporation, solidification, and melting, free surface flows, and phase change

1997

- **Dr John J Bertin**
Rice University
Awarded
AIAA Citation: In recognition of sustained and outstanding contributions to hypersonic aerothermodynamics through research, technical society leadership, and education

1996

- **Dr G. P. Peterson**

Georgia Institute of Technology

Awarded

Award: -

AIAA Citation: For outstanding contributions to the understanding of phase-change heat transfer, notable achievements in the area of heat pipe technology, and leadership in engineering education

1995

- **Dr Fred R DeJarnette**

Awarded

AIAA Citation: For significant contributions to reentry technology through the development of computationally efficient methods for predicting three-dimensional aerodynamic heating

1994

- **Prof Chul Park**

Korea Advanced Institute of Science & Technology

Awarded

AIAA Citation: For vast contributions in enhancing the understanding of nonequilibrium chemically reacting hypersonic flows and immeasurably advancing the science of hypervelocity atmospheric flight

1993

- **Dr Robert Siegel**

Awarded

AIAA Citation: For outstanding contributions to thermophysics including boiling in low gravity, transient forced and free convection, solidification and thermal radiation

1992

- **Dr L. Skip Fletcher**
Texas A&M University
Awarded
AIAA Citation: For outstanding contributions to the field of thermophysics, especially through innovative experimental research in thermal contact conductance, aerothermodynamics, and heat transfer in separated flows

1991

- **Dr Peter A Gnoffo**
NASA-Langley Research Center
Awarded
AIAA Citation: For pioneering contributions to the development of computational techniques for the analysis of complex hypervelocity flows in chemical and thermal nonequilibrium

1990

- **Dr John R Howell**
University of Texas at Austin
Awarded
AIAA Citation: For outstanding contributions in thermophysics with specific reference to his application of the Monte Carlo method to radiation heat transfer

1989

- **Dr James N Moss**
Awarded
AIAA Citation: For pioneering research in the computation of flowfields about hypervelocity entry vehicles, including analyses of real-gas chemistry, radiation transport, ablation, and rarefaction; and for meritorious service to AIAA

1988

- **Dr Graeme A Bird**
GAB Consulting GmbH
Awarded
AIAA Citation: For sustained and significant contributions to the development of the direct simulation Monte Carlo method for simulating real gas flows for reentry and space applications, and furthering understanding of translational, chemical and radiation nonequilibrium effects

1987

- **Prof Alfred L Crosbie**
Missouri University of Science and Technology
Awarded
AIAA Citation: For contribution and leadership in the development of the theory and understanding of multi-dimensional radiative transfer in absorbing and scattering media and for his meritorious service to AIAA

1986

- **Mr. John T Howe**
Awarded
Award: -
AIAA Citation: For pioneering research contributions in the field of thermophysics applied to aerothermodynamics, including reactive gas flows, radiative energy transport, and innovative thermal protection systems

1985

- **Dr Milan M Yovanovich PE**
University of Waterloo
Awarded
Award: -
AIAA Citation: For sustained and significant contributions to the advancement in the fundamentals of Thermal Contact Resistance Theory

1984

- **Prof Tom J Love Jr.**
The University of Oklahoma
Awarded
AIAA Citation: For fundamental contributions in radiative heat transfer with specific references to his landmark studies in the analysis of absorbing, emitting and scattering media

1983

- **Prof Stanford S Penner**
University of California, San Diego
Awarded
AIAA Citation: For eminent and sustained contributions to the thermophysics field, especially pertaining to quantitative spectroscopy and radiative transfer in high temperature gas systems

1982

- **Richard P Bobco**
Awarded
AIAA Citation: For significant contributions to the science and art of thermal design particularly his pioneering work on radiative exchange in complex systems

1981

- **Walter B Olstad**
Awarded
AIAA Citation: For pioneering individual research contributions to thermophysics and for outstanding technical leadership in developing and internationally recognized research program in planetary entry aerothermodynamics at the NASA Langley Research Center

1980

- **Dr George W Sutton**
SPARTA, Inc.
Awarded
AIAA Citation: For notable contributions to thermophysics through research and publications on high-energy laser beam propagation, interaction with materials, and service to AIAA

1979

- **Dr Raymond Viskanta**
Purdue University
Awarded
AIAA Citation: To recognize outstanding contributions to thermophysics which have been of lasting service to the aerospace profession; specifically for his fundamental work in radiative transfer and the interaction of radiation with conduction and convection

1978

- **Dr Allie M Smith**
Awarded
AIAA Citation: For many contributions to thermophysics through research, particularly toward experimental and theoretical understanding of cryodeposits as well as the investigation of contamination and solar degradation of thermal control and optical surfaces

1977

- **Prof Chang L Tien**
University of California Berkeley
Awarded
AIAA Citation: For contributions to thermophysics through teaching, research publications and service to his profession

1976

- **Dr Donald K Edwards**

University of California Irvine

Awarded

AIAA Citation: For contributions to thermophysics through teaching, research, publications and service to his profession.