VVUQ 2025

VERIFICATION, VALIDATION, AND UNCERTAINTY QUANTIFICATION SYMPOSIUM

PROGRAM

CONFERENCE
APRIL 9 – 10, 2025

HILTON COLLEGE STATION
AND CONFERENCE CENTER
COLLEGE STATION, TX

https://event.asme.org/VandV

The American Society of Mechanical Engineers®
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Dear VVUQ Symposium Attendee,

Welcome to the 2025 VVUQ Symposium! Every year, I have gotten AI to help me write this. A few years ago, it was novel, now it's routine. This shift mirrors a broader trend across industries, where advances in technology are accelerating at an unprecedented pace. But the real bottleneck isn't the technology itself, it's our ability to determine whether we can trust it. That's where VVUQ comes in. The future of innovation depends not just on what we build, but on how quickly we can verify its reliability. This symposium is about tackling that challenge head-on.

Thank you for being here!

Joshua Kaizer

VVUQ 2025 Conference Chair

VVUQ Symposium Organizing Committee

Gregory Banyay Jeff Bischoff Jeff Bodner Kevin Dowding Luis Eça

Yassin Hassan Marc Horner

VVUQ Symposium 2025
Schedule at a Glance

Monday 4/7/2025	Tuesday 4/8/202	Wednesday 4/9/2025	Thursday 4/10/2025
VVUQ 2025 Symposium **HILTON COLLEGE STATION & CONFERENCE CENTER** **Committee Meetings** *Mockingbird B & C* *Lobby Level*	**VVUQ 2025 Symposium** **HILTON COLLEGE STATION & CONFERENCE CENTER** **Committee Meetings** *Mockingbird B,C,D, and Ballroom 7* *Lobby Level*	**VVUQ 2025 Symposium** **HILTON COLLEGE STATION & CONFERENCE CENTER** **Symposium** Check conference APP for room assignments	**VVUQ 2025 Symposium** **HILTON COLLEGE STATION & CONFERENCE CENTER** **Symposium** Check conference APP for room assignments
	Pizza Talks **VVUQ Workshop for Students** **Texas A&M University** **180 Spence St.** **6:30PM–9:00PM** **Room : JCAIN 202, 2nd Fl.** **Walk in Welcome**	**Breakfast** Ballroom 3, Lobby Level 8:00AM- 8:45AM	**Breakfast** Ballroom 3, Lobby Level 8:00AM- 8:45AM
		Welcome and Standards Updates Ballroom 4, Lobby Level 8:45AM- 9:15AM **Keynote Speaker** 9:15AM-10:15AM Bart Kemper, P.E., DFE Presentation title: *"Innovation, Ethics, and spreading the word of VVUQ"*	Welcome and Standards Updates Ballroom 4, Lobby Level 8:45AM- 9:15AM **Keynote Speaker** 9:15AM-10:15AM Dr. Chris Roy Presentation title: *"The VT-NASA CFD Turbulence Model Validation Challenge"*
		Coffee Break 10:15AM-10:30AM Ballroom 3, Lobby Level	**Coffee Break** 10:15AM-10:30AM Ballroom 3, Lobby Level
		Technical Sessions 10:30AM-12:35PM Ballrooms 5, 6, 7 Lobby Level	**Technical Sessions** 10:30AM-12:35PM Ballrooms 5, 6, 7 Lobby Level
		Lunch 12:45PM-1:45PM Ballroom 3 Lobby Level	**Lunch** 12:45PM-1:45PM Ballroom 3 Lobby Level
		Technical Sessions 1:45PM-3:25PM Ballrooms 5, 6,7 Lobby Level	**Technical Sessions** 1:45PM-3:25PM Ballrooms 5, 6,7 Lobby Level
		Coffee Break 3:30PM-3:45PM Ballroom 3, Lobby Level	**Coffee Break** 3:30PM-3:45PM Ballroom 3, Lobby Level
		Technical Sessions 3:45PM-5:30PM Ballrooms 5, 6,7 Lobby Level	**Technical Sessions** 3:45PM-5:30PM Ballrooms 5, 6,7 Lobby Level
		Networking Reception **5**:30PM-7:00PM Reville Rooftop, 11th Fl	**End of Symposium**
		End of day one	

ACKNOWLEDGEMENT

The Verification, Validation, and Uncertainty Quantification Symposium is sponsored by ASME. All technical sessions and conference events will take place the Hilton College Station Hotel and Conference Center. Please check the website schedule for event times and locations.

REGISTRATION FEES

Full Registration Fee includes:

• Admission to all technical sessions.

• All scheduled meals.

• Symposium program with abstracts.

- A One-day Registration includes admission to the events above for the day only.

NAME BADGES

Name badges should be worn always during the conference. You will need it for admission to all conference functions unless otherwise noted. Your badge also provides a helpful introduction to other attendees.

COMPLIMENTARY ASME MEMBERSHIP

Non-ASME Members who pay the non-Member conference registration fee, including students who pay the non-Member student fee, will be offered a 4-month trial ASME Membership (complimentary) following the conference. Please allow approximately 4 weeks after the conclusion of the conference for your membership to become active. Visit www.asme.org/membership for more information about the benefits of ASME Membership.

INTERNET ACCESS IN THE HOTEL

Complimentary Wi-Fi is available in your sleeping room. To access WIFI in the meeting space follow these directions:

Connect to "Hilton Honors Meeting" network. Click on (at the bottom of the page) "I have a promotional code". Type in "premiumguest" (one word) & accept terms

EMERGENCY

In case of an emergency in the hotel, pick up any house phone which rings directly to the operator, and they can dispatch help.

ACCESSIBILITY AND GENERAL QUESTIONS

Whenever possible, we are pleased to accommodate attendees with special needs. Advance notice may be required for certain requests. For on-site assistance related directly to the conference events and for general conference questions, please visit the ASME registration desk located in the lobby near the Ballroom Foyer on the Lobby Level. For special needs related to your hotel stay, please visit the hotel front desk.

ONSITE REGISTRATION HOURS

Location: Ballroom Foyer

Tuesday, April 8	3:00 PM - 5:00 PM
Wednesday, April 9	8:00 AM - 5:00 PM
Thursday, April 10	8:00 AM - 5:00 PM

Breakfast, lunch and breaks will be in Ballroom 3, Lobby level

Keynotes

Wednesday April 9, 2025
9:15AM - 10:15AM

Bart Kemper, P.E., DFE
University of Louisiana at Lafayette
Kemper Engineering Services

Keynote Title: "Innovation, Ethics, and spreading the word of VVUQ"

Thursday April 10, 2025
9:15AM - 10:15AM

Dr. Chris Roy
Professor, Crofton Department of Aerospace and Ocean Engineering
Virginia Tech

Keynote Title: "The VT-NASA CFD Turbulence Model Validation Challenge"

Lanyard Sponsor

The planning committee would like to thank Ben Thacker and Southwest Research Institute for their support of the VVUQ 2025 Symposium by sponsoring the lanyards. For further information check out their website at SwRI

SOUTHWEST RESEARCH INSTITUTE

Author Index

WEDNESDAY, April 9, 2025

4/10/2025
9:15 AM to 10:15 AM - Ballroom 4, Lobby Level

Keynote: Bart Kemper, P.E., DFE,
University of Louisiana at Lafayette, Kemper Engineering Services

Presentation Title: “Innovation, Ethics, and spreading the word of VVUQ”

10:30 AM to 12:35 PM - Ballroom 5, Lobby Level
Chair: ***Aaron Koskelo - Los Alamos National Laboratory***

Presentations:

Validation of Turbulent Mixing in the Chimney of a Pool-Type Reactor,
{VVS2025-152559}
Technical Paper Publication
Breken Wallar - Texas A&M University

Estimating Modeling Errors at an Application Point Using Regression
{VVS2025-152195}
Technical Paper Publication
L. Joel Peltier - Betchel
Urmila Ghia - University of Cincinnati Office of Research
Nima Fathi - Texas A&M University
Laura Savoldi - Politecnico di Torino
Kevin Dowding - Sandia National Laboratories, New Mexico
Luis Eca - IST

“VVUQ Metrics and Applications to Improve Your Research”
{VVS2025-151299}
Technical Paper Publication
David R. Harrison - Lockheed Martin
Kelsey Cannon - Lockheed Martin

Experimental Characterization of Upper Plenum Natural Circulation Phenomena Under Pressurized Transient Accident Conditions
{VVS2025-158434}
Technical Presentation Only
Tristen Rogers - Texas A and M University
Yassin Hassan - Texas A and M University

10:30 AM to 12:35 PM - Ballroom 6, Lobby Level
Chair: ***Daniel Papert - ASME***

Presentations:

Variable Selection in Optimization Using Quantile-Based Sensitivity Indices,
{VVS2025-157688}
Technical Presentation Only
Matthew Balcer - Los Alamos National Laboratory
Derek Armstrong - Los Alamos National Laboratory

Two-Step Models for Data-Driven Closures in Sparsely Observed Dynamical Systems
{VVS2025-158333}
Technical Presentation Only
Daniel Drennan - Texas A&M University
Toryn Schafer - Texas A&M University
Rileigh Bandy - Sandia National Laboratories
Teresa Portone - Sandia National Laboratories
Moe Khalil - Sandia National Laboratories
Kyle Neal - Sandia National Laboratories

Advanced Methods for Uncertainty Quantification in the Context of Composite Structures,
{VVS2025-158645}
Technical Presentation Only
Ludovic Barriere - IRT Saint Exupery
Sébastien Bocquet - IRT Saint Exupery
Clément Laboulfie - IRT Saint Exupery
Marie Guerder - Institut Clément Ader
Paolo Minigher - AMADE University of Girona
Albert Turon - AMADE University of Girona
Jean-Charles Passieux - Institut Clément Ader
Jean-Philippe Navarro - IRT Saint Exupery

Modeling, Experimental Characterization, and Uncertainty Quantification of Aged Dielectric Materials,
{VVS2025-157771}
Technical Presentation Only
Eugenia Stanisauskis Weiss - Naval Undersea Warfare Center- Divison Newport
Emily Guzas - Naval Undersea Warfare Center- Division Newport

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10:30 AM to 12:35 PM - Ballroom 7, Lobby Level

Chair: ***Joshua Kaizer - U.S. Nuclear Regulatory Commission***

Presentations:

Softmax-Based Deep Neural Network in Regression,
{VVS2025-151639}
Technical Paper Publication
Jeongwon Seo - University of Texas at Austin
Kevin T. Clarno - University of Texas at Austin

Wholistic Credibility Assessment of Machine Learning-Based Surrogate Model in an Aerodynamics Application,
{VVS2025-152225}
Technical Paper Publication
Jared Kirsch - Texas A&M University
William Rider - Sandia National Laboratories
Nima Fathi - Texas A&M University

Critical Heat Flux Prediction and Uncertainty Quantification With Bayesian Optimization and Deep Ensemble, {VVS2025-152505}
Technical Paper Publication
Zaid Abulawi - Texas A&M University
Doyeong Lim - Texas A&M University
Yassin Hassan - Texas A&M University
Yang Liu - Texas A&M University

Development and Verification of a Pipeline System Surge Screening Tool Using Deep Learning Technology, VVS2025-158461}
Technical Presentation Only
David Cheng - Fluor Enterprises Inc
Phuc Do - Fluor Enterprises Inc

Credibility Assessment Framework for Machine Learned Models, Revisited, {VVS2025-158128}
Technical Presentation Only
Joshua Kaizer - U.S. Nuclear Regulatory Commission

1:45 PM to 3:25 PM - Ballroom 5, Lobby Level

Chair: ***Vikrant Chiddarwar - Siemens***

Presentations:
Heat Transfer Correlations for Downward-Facing Curved Surfaces Under Upward Flow Conditions {VVS2025-152278}
Technical Paper Publication
Sameer Osman - Khalifa University
Imran Afgan - Khalifa University
Yacine Addad - Khalifa University

A Solution Verification Exercise for a Practical Application of a Coastal Hydrodynamics Model {VVS2025-153326}
Technical Paper Publication
Manuel Rentschler - IST / BlueOasis
Luis Eca - IST
Guilherme Vaz – BlueOasis

Verifying and Validating Vertex-Cfd Simulations of Heated Lid-Driven Cavities {VVS2025-152934}
Technical Paper Publication
Sean Simonian - Texas A&M University
Marco Delchini - Oak Ridge National Laboratory
Kellis Kincaid - Oak Ridge National Laboratory
Ryan Glasby - Oak Ridge National Laboratory
Franklin Curtis - Oak Ridge National Laboratory

1:45 PM to 3:25 PM - Ballroom 6, Lobby Level
Chair: ***Daniel Papert - ASME***

Presentations:
A Physics-Based Stochastic Approach for Estimating Model Uncertainty in Reynolds-Averaged Navier-Stokes Simulations
{VVS2025-157800} Technical Presentation Only

Yu-Jou Wang - Massachusetts Institute of Technology
Emilio Baglietto - Massachusetts Institute of Technology
Michael Acton - Massachusetts Institute of Technology
Ralph Wiser - Massachusetts Institute of Technology
Patrick Mcgah - TerraPower, LLC
Monica Pham - TerraPower, LLC

Tseuqlib: A Python Library for Conducting Uncertainty Quantification With the Taylor Series Expansion Surrogate Model
{VVS2025-157955}
Technical Presentation Only
Matthew Balcer - Los Alamos National Laboratory
Mauricio Aristizabal - The University of Texas at San Antonio
Samuel Roberts - Los Alamos National Laboratory
Christy Joy Tupas - The University of Texas at San Antonio
Harry Millwater - The University of Texas at San Antonio

Uncertainty Quantification by Probabilistic Analysis of Stirling Engine Performance
{VVS2025-151983}
Technical Paper Publication
Rama Gorla - Air Force Institute of Technology
John Brewer - Air Force Institute of Technology
Abdeel Roman - Air Force Research Laboratory

Explainable Machine Learning for Data-Driven Turbulence Modeling in Compressible Fluid Flows Using Shap Analysis
{VVS2025-156304}
Technical Presentation Only
Uma Balakrishnan - Sandia National Laboratories
William J. Rider - Sandia National Laboratories
Matthew Barone - Sandia National Laboratories
Eric Joshua Parish - Sandia National Laboratories

3:45 PM to 5:30 PM - Ballroom 5, Lobby Level
Chair: ***Vikrant Chiddarwar - Siemens***

Presentations:
Experimental Analysis and Model Validation of Flow-Induced Vibrations in Helical Coil Steam Generators for Small Modular Reactors
{VVS2025-151929}
Technical Presentation Only
Noah Sutton - Texas A&M University
Joseph Seo - Texas A&M University
Hansol Kim - Texas A&M University
Yassin Hassan - Texas A&M University

Experimental Investigation of Near-Wall Bypass Flow in Randomly Packed Pebble Beds
{VVS2025-152485}
Technical Presentation Only
Seth Macias - Texas A&M University
Hansol Kim - Texas A&M University
Joseph Seo - Texas A&M University
Yassin Hassan - Texas A&M University

Experimental Investigation of Pressure Drop and Flow Regimes in Helical Cruciform Fuel Rod Bundles for Simulation Validations
{VVS2025-152557}
Technical Presentation Only
Dalton Pyle - Texas A&M University
Matthey Kinsky - Texas A&M University
Joseph Seo - Texas A&M University
Hansol Kim - Texas A&M University
Yassin Hassan - Texas A&M University

3:45 PM to 5:30 PM - Ballroom 6, Lobby Level
Chair: ***Ali Kaipour - MHG - Harvard***

Presentations:

Using 3d Measurements From Mri to Improve VVUQ
{VVS2025-151136}
Technical Paper Publication
Michael Benson - Oak Ridge National Laboratory
Duy Thien Nguyen - Oak Ridge National Laboratory
Daniel Borup - Borup Solutions LLC

Advancing Medical Device Compliance With VVUQ
{VVS2025-152947}
Technical Presentation Only
Mark Carlson - Siemens

Validation Studies of an In-Silico Model to Predict Laminar Conduit Flushing With Specific Application to Fluid-Filled Medical Devices
{VVS2025-158173}
Technical Presentation Only
Siva Balasubramanian - BD
Ulas Ayaz - BD
Wesley Underwood - BD
Christopher Basciano - BD

3:45 PM to 5:30 PM - Ballroom 7, Lobby Level
Chair: ***Joanne Budzien***

Presentations: Poster Presentations

A Verification Method for Simulations of Oblique Shock Reflections {VVS2025-164076}
Student Poster Presentation

Richtmyer-Meshkov Ejecta Model Verification in Flag {VVS2025-164077}
Student Poster Presentation

The Journal of Verification, Validation and Uncertainty Quantification {VVS2025-164079}
Student Poster Presentation

Validation Hierarchy and Building a Credibility Case Using Validation Suites {VVS2025-155556}
Student Poster Presentation
Joanne Budzien - Los Alamos National Laboratory

THURSDAY, April 10, 2025

9:15 AM to 10:15 AM - Ballroom 4, Lobby Level

Keynote: Dr. Chris Roy
Professor, Crofton Department of Aerospace and Ocean Engineering Virginia Tech

Presentation Title: “The VT-NASA CFD Turbulence Model Validation Challenge”

4/10/2025
10:30 AM to 12:35 PM - Ballroom 5, Lobby Level

Chair: ***Brandon Wilson - Los Alamos National Laboratory***

Presentations:

Model Credibility and Model Risk Assessment for Decision Support
{VVS2025-158256}
Technical Presentation Only
Pranav Karve - Vanderbilt University
Sankaran Mahadevan - Vanderbilt University
Kyle Neal - Sandia National Laboratory
Joshua Mullins - Sandia National Laboratory

Model Risk Assessment for an Electromagnetic Application
{VVS2025-158221}
Technical Presentation Only
Kyle Neal - Sandia National Laboratories
Aaron Krueger - Sandia National Laboratories
Alden Pack - Sandia National Laboratories
Pranav Karve - Vanderbilt University
Sankaran Mahadevan - Vanderbilt University
Josh Mullins - Sandia National Laboratories

Experiment Credibility and Modsim Integration
{VVS2025-151059}
Technical Presentation Only
Blake Lance - Sandia National Laboratories
Sarah Kieweg - Sandia National Laboratories
Kyle Neal - Sandia National Laboratories

An Open-Source Python Package for Cfd Solution Verification
{VVS2025-151463}
Technical Paper Publication
Justin Weinmeister - Oak Ridge National Laboratory
Devina P. Sanjaya - The University of Tennessee, Knoxville

Sensitivity Analysis and Uncertainty Quantification of a Digital Twin-Based Simulator for Small Modular and Microreactors
{VVS2025-152220}

Technical Paper Publication
Zavier Ndum Ndum - Texas A&M University
Doyeong Lim - Texas A&M University
Yassin Hassan - Texas A&M University
Yang Liu - Texas A&M University

10:30 AM to 12:35 PM - Ballroom 6, Lobby Level

Chair: ***Joanne Budzien***

Presentations:

Combining Simulation Models Enabling Virtualized Testing of an Automated Driver Assistance Function
{VVS2025-151244}
Technical Paper Publication
Sebastian Fricke - Robert Bosch GmbH
Steffen Joos - Robert Bosch GmbH
Mohamed Besher Baradi - Robert Bosch GmbH
Andreas Karl - Robert Bosch GmbH
Muhammed Atak - Robert Bosch GmbH
Andreas Kerst - Robert Bosch GmbH
Reto Köhler - Robert Bosch GmbH
Lajos Kocsan - Robert Bosch GmbH
Ulrich Schulmeister - Robert Bosch GmbH

A Virtual Testing Platform to Assess Credibility of Simulation: Application to V&vuq Workflows for Composite Damage Models
{VVS2025-151180}
Technical Presentation Only
Sebastien Bocquet - IRT Saint Exupéry
Ludovic Barrière - IRT Saint Exupéry

Probabilistic Modeling of Rib Fracture Risk: Accounting for Population Variability in Injury Assessment and Safety System Design
{VVS2025-157902}
Technical Presentation Only
Vivek Kote - Southwest Research Institute
Lance Frazer - Southwest Research Institute
Daniel Nicolella - Southwest Research Institute
Sarah Shaffer - Southwest Research Institute

1:45 PM to 3:25 PM - Ballroom 5, Lobby Level

Chair: ***Brandon Wilson - Los Alamos National Laboratory***

Presentations:

Method of Manufactured Solutions to Verify 3d Least-Squares Finite Element Model of Generalized Newtonian Fluids,
{VVS2025-151690}
Technical Paper Publication
Namhee Kim - Western Carolina University
J. N. Reddy - Texas A&M University

Reimagining Code Verification: From Bug Detection to Scientific Insight William J. Rider
{VVS2025-155247}
Technical Presentation Only
William Rider - Sandia National Laboratories

Structured Verification Challenges in Complicated Engineering Systems
{VVS2025-155467}
Technical Presentation Only
Piers Denning - Rolls-Royce
Ryan Tunstall - Rolls-Royce

The 2nd Law of Modeling & Simulation, Inequality Statements, Engineering Uq, and Credibility Assessment
{VVS2025-158032}
Technical Presentation Only
Vicente Romero - Sandia National Laboratories

4/10/2025
1:45 PM to 3:25 PM - Ballroom 6, Lobby Level

Chair: ***Chris Roy - Virginia Tech***

Presentations:

Code Verification Problems in 2d & 3d
{VVS2025-157947}
Technical Presentation Only
Jim Ferguson - Los Alamos National Laboratory
Jasper Thrussell - Los Alamos National Laboratory

Code-Verification Techniques for Electromagnetic Surface Integral Equations
{VVS2025-157725}
Technical Presentation Only
Brian Freno - Sandia National Laboratories

Richardson Extrapolation and Wynn's Epsilon Method Applied to Nested Quadratures for Radiation Transport
{VVS2025-158343}
Technical Presentation Only
William Bennett - Los Alamos National Laboratory
Jim Ferguson - Los Alamos National Laboratory
Ryan Mcclarren - University of Notre Dame

4/10/2025
1:45 PM to 3:25 PM - Ballroom 7, Lobby Level

Chair: ***Luis Eca - IST***

Presentations:

An Evaluation of the Methodology of the Asme Vvuq Symposium Workshop on Validation Error Regression
{VVS2025-158352}
Technical Presentation Only
Jared Kirsch - Texas A&M University
Blake Lance - Sandia National Laboratories

Contribution to the Workshop on Regression of Validation Data to an Application Point
{VVS2025-158040}
Technical Presentation Only
Laura Savoldi - Dipartimento Energia, Politecnico Di Torino

4/10/2025
3:45 PM to 5:30 PM - Ballroom 5, Lobby Level

Chair: ***L. Joel Peltier - Bechtel Nuclear, Security, & Environmental***

Presentations:

Results of the 2024 Rosetta Stone Project--a Cross-Societies Collaboration
{VVS2025-156772}
Technical Presentation Only
William Schindel - ICTT System Sciences
Olivia Fischer - Georgia Institute of Technology
Mat French - Northrop Grumman Corporation
Joseph Hightower - Self
Alexander Karl - Rolls-Royce
John Matlik - Northrop Grumman Corp.
Laura Pullum - The POM Group, LLC
Gordon Shao - National Bureau of Standards (NIST)
Nigel Taylor - MBDA Systems

Credibility Assessment of Computational Model by Epistemic Uncertainty
{VVS2025-158099}
Technical Presentation Only
Kazumi Matsui - Yokohama National University
Yuki Fukutani - Yokohama National University
Chikako Natsumeda - Yokohama National University
Kazuyuki Kurata - Terumo Corporation
Arata Tsuzuki - Dassault Systemes K.K.
Takahiro Miura - ZUKEN Modelinx Inc.
Takashi Inoue - Cybernet Systems Co., Ltd.
Takeki Yamamoto - Ibaraki University
Hirofumi Sugiyama - University of Yamanashi
Dai Watanabe - Shibaura Institute of Technology
Tomohiko Morimo - Research Institute for Human Life Technology
Takahiro Yamada - Yokohama National University

Toward the Credibility Assessment of Digital Twins for Additive Manufacturing
{VVS2025-152070}
Technical Presentation Only
Yan Lu - NIST
Paul Witherell - NIST
Shengyen Li – NIST

Needed Elements for Certification by Analysis
{VVS2025-157613}
Technical Presentation Only
William Oberkampf - W L Oberkampf Consulting
Martin Pilch - MPilch Consulting

4/10/2025
3:45 PM to 5:30 PM - Ballroom 6, Lobby Level

Chair: ***Chris Roy - Virginia Tech***

Presentations:

Asymptotic Analysis as a Verification Method
{VVS2025-158388}
Technical Presentation Only
Jim Ferguson - Los Alamos National Laboratory

Code-Verification Techniques for Computational Plasma Physics
{VVS2025-157727}
Technical Presentation Only
Brian Freno - Sandia National Laboratories

Verification Tests for Some Asymptotically Converging Models
{VVS2025-157951}
Technical Presentation Only
William Bennett - Los Alamos National Laboratory
Jim Ferguson - Los Alamos National Laboratory

Committee Meetings

2025 Verification, Validation, and Uncertainty Quantification (VVUQ) in Computational Modeling and Simulation
Committee Meeting Schedule - April 7 & 8, 2025
Hilton College Station and Conference Center

Times (CT)	*Monday, April 7, 2025*
9:00:00 AM	**VVUQ 60 Computational Modeling in Energy Systems 9:00am-1:00pm Mockingbird B, Lobby Level**
10:00:00 AM	
11:00:00 AM	
12:00:00 PM	
1:00:00 PM	**VVUQ 30 Computational Simulation of Nuclear System Thermal Fluids Behavior 1:00pm-5:00pm Mockingbird C, Lobby Level**
2:00:00 PM	
3:00:00 PM	
4:00:00 PM	
5:00:00 PM	
	Tuesday, April 8, 2025
9:00:00 AM	**VVUQ 10 Computational Solid Mechanics 9:00am -12:00pm Mockingbird C, Lobby Level** / **VVUQ 20 Computational Fluid Dynamics and Heat Transfer 9:00am -12:00pm Mockingbird D, Lobby Level**
10:00:00 AM	
11:00:00 AM	
12:00:00 PM	
1:00:00 PM	**Joint VVUQ 10/20 Committee Meeting 1:00pm - 5:00pm Ballroom 7, Lobby Level** / **VVUQ 50 Computational Modeling in Advanced Manufacturing 1:00pm - 5:00pm Mockingbird B, Lobby Level**
2:00:00 PM	
3:00:00 PM	
4:00:00 PM	
5:00:00 PM	
6:00:00 PM	**VVUQ Standards Committee Executive Session 6:00pm - 8:00pm Ballroom 7, Lobby Level**
7:00:00 PM	
8:00:00PM	

Special Events

VERIFICATION
VALIDATION
AND
UNCERTAINTY
QUANTIFICATION

SYMPOSIUM STUDENT TALKS

PIZZA PROVIDED

TUESDAY, APRIL 8, 2025
6:30–9:00PM
JCAIN 202

Texas A&M University
180 Spence St.
College Station, TX 77840
Second Floor

Modeling and simulation are at the forefront of design and cost saving in the field of engineering. With new technologies such as Artificial Intelligence becoming more prominent in the space, establishment of credibility in these models is more important than ever.

Join us at 6:30–9:00pm on Tuesday, April 8th, 2025 in JCAIN 202 to hear from experts in the engineering modeling and simulation space. Learn more about Verification, Validation, and Uncertainty Quantification and their role in the engineering design process.

SIGN UP BY MARCH 21ST TO GET ACCESS TO SYMPOSIUM NETWORKING EVENT AND TWO SESSIONS OF YOUR CHOICE

WALK INS WELCOME!

DR. WILLIAM OBERKAMPF

Dr. William Oberkampf has 55 years of experience in research and development in fluid dynamics, heat transfer, and solid mechanics. During the last 30 years he has focused on research, applications, and teaching of verification, validation, and uncertainty quantification of modeling and simulation.

He is co-author of the book *"Verification, Validation and Uncertainty Quantification in Scientific Computing"* published by Cambridge University Press.

He is a Fellow of AIAA and a Fellow of NAFEMS.

BILL RIDER

Bill Rider is currently a member of the Engineering Sciences Center's verification, validation, and uncertainty quantification department. He is a senior technical advisor for the ASC V&V program, PI for a credibility for scientific machine learning project, and contributor to numerous other projects with ASC and Weapons funding.

Bill joined Sandia in 2007 after a 18 year career at Los Alamos National Lab. He is also a guest scientist with LANL's Theoretical Division as well. At Sandia, he contributed to code development of the ALEGRA code, VVUQ research and a senior role in the exascale program under ASC. He serves as a member and vice chairman of the ASME VV20 standards committee.

Bill's professional career began in Los Alamos in 1989. He began work as a nuclear engineer but transitioned to research in computational science. He eventually joined the nuclear weapons design division as a code developer and researcher. His professional expertise is V&V, Shock physics, and turbulence. He contributed key capabilities in design codes, and important research in numerical methods and modeling. He also became a deputy group leader at the end of his Los Alamos career.


VERIFICATION
VALIDATION
AND
UNCERTAINTY
QUANTIFICATION
NETWORKING
RECEPTION
at the VVUQ 2025
Symposium
Hilton College Station
Reveille Rooftop Bar
Wednesday April 9th
5:30pm - 7pm

Facility Map

SAVE THE DATE

2026 Verification, Validation, and Uncertainty Quantification Symposium

IS SCHEDULED FOR

MAY 18-22, 2026

CITY TO BE DETERMINDED

The American Society of Mechanical Engineers®
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SETTING THE STANDARD