

MONDAY - May 24

Reception at Beach Cove Resort - Salons C & D

3:30	REGISTRATION - Foyer 2nd Level
4:30	No-host bar
5:15	Opening Reception - Paul Turinsky, Phillip Finck, Richard Jacobsen
8:00	Reception & no-host bar close

TUESDAY - May 25

7:30	REGISTRATION - Foyer 2nd Level
PLENARY - Salons E,F,G	
8:00	V & V Challenges and Needs for Science-Based Modeling and Simulation - Hany Abdel-Khalik
8:10	Short welcome and intro - Phillip Finck -
8:35	V & V: New Features for New Challenges - Massimo Salvatores
9:00	Knocking Down Uncertainty – the Role of V&V and UQ to Guide NEAMS Development and Improved Experiments - Alex Larzelere
9:25	V&V of Very High Temperature Reactors in Support of NGNP Design, Safety Analysis, and Licensing - Hans Gougar
9:50	Data Assimilation and Model Calibration: Open Issues and Possible Paths Forward - Dan Cacuci
10:15	BREAK
10:30	LWR Sustainability Program - Ronaldo Szilard
10:55	R7 Project Overview: V&V Challenges, and Needs - Vincent Mousseau
11:30	FREE TIME

3:45	AFTERNOON REFRESHMENTS - South Foyer			
	SESSION 1 - Salon E Solution Verification <i>Chair: Bill Rider</i>	SESSION 2 - Salon F Verification Practices <i>Chair: Jim Stewart</i>	SESSION 3 - Salon G Posterior Error Estimation <i>Chair: Jean Ragusa</i>	
4:00	Estimation of Discretization Error and Integration into Total Prediction Uncertainty <i>Chris Roy</i>	Perspectives on Code Verification Licensing Standards <i>Bill Oberkampf</i>	Verification of High-Order Spatio-Temporal Discretization of Multiphysics in the Next Generation Reactor Safety Code <i>Robert Nourgaliev</i>	
4:20	<i>Chris Roy - (cont)</i>	Verification Methods for the SCALE Code System <i>Brad Rearden</i>	Verification of Multiphysics Codes <i>Jean Ragusa</i>	
4:40	Factors of Safety for Richardson Extrapolation <i>Tao Xing, PhD</i>	A Code-Verification Evidence-Generation Process Model and Checklist <i>Pat Knupp</i>	Goal-Oriented Error Estimation and Adaptive Multiscale Modeling Applied to the Simulation of Polymers used in Semiconductor Manufacturing <i>Paul Bauman</i>	
5:00	Verification Practices for Code Development Teams <i>Greg Weirs</i>	Recent Experiences with Automated Verification for Nek5000 <i>Jeff Smith</i>	A Posterior Analysis of Multiscale Operator Decomposition <i>Varis Carey</i>	
5:20	V&V and UQ for the Next Generation Reactor Safety Code <i>Robert Nourgaliev</i>	A Perspective on Role of Quality Development Processes and Value of V&V for both Structural and Fluid Mechanics Software Programs <i>Ahmad Haidari</i>		
5:40	BREAK			
6:00	Discussion (Salons E,F,G) - Verification Challenges for Advanced Predictive Tools, and Potential Areas of Applications, Algorithmic Needs/Capabilities <i>Jean Ragusa and Bill Rider</i>			
7:00	ADJOURN			
7:30 - 9:00	DINNER (Salons C & D) - Thomas Edmunds - Public Perception of Risk			

WEDNESDAY - May 26

8:00 REGISTRATION - Foyer 2nd Level				
	SESSION 1 - Salon E Data Assimilation <i>Chair: Matthew Jessee</i>	SESSION 2 - Salon F Sensitivity Analysis <i>Chair: Hany Abdel-Khalik</i>	SESSION 3 - Salon G Fuels and Materials <i>Chair: John Turner</i>	SESSION 4 - Salon A UQ for Fuel Licensing <i>Chair: Thomas Downar</i>
8:30	Consistent Data Assimilation: An Approach for Improving Basic Nuclear Parameters Using Integral Experiment Results <i>Giuseppe Palmiotti</i>	Computation of Assembly-Homogenized/Few-Group Covariance Matrices for Reactor S/U Analysis <i>Mark Williams</i>	AMP-An Advanced Multiphysics Fuel Performance Code <i>Jim Banfield</i>	Conceptual Framework for Using 'Best Estimate Plus Uncertainty' as a Basis for Licensing Activities for Fuels Developed for an Advanced Reactor <i>Patrick McClure</i>
8:55	Computation of Assembly-Homogenized/Few-Group Covariance Matrices for Reactor S/U Analysis <i>Matthew Jessee</i>	Automatic Differentiation: Tools, Techniques, and Applications <i>Paul Hovland</i>	On the Significance of Modeling Nuclear Fuel Behavior with the Right Representation of Physical Phenomena <i>Aydin Karahan</i>	Sensitivity and Calibration of Reactor Experiments Using FRAPCON <i>David Higdon</i>
9:20	A Measure Theoretic Computational Approach For Inverse Sensitivity Problems <i>Troy Butler</i>	Global Sensitivity Analysis <i>Brian Adams</i>	Uncertainty Quantification in Nuclear Fuel Performance Codes <i>Ken Geelhood</i>	Predictive Maturity: A Quantitative Metric for Optimizing Complex Simulations via Systematic Experimental Validation <i>Sezer Atamturktur</i>
9:45	Validation of Reactor Physics Codes for Reactivity Coefficients for CANDU Reactor Applications <i>Fred Adams</i>	Addressing the Challenges of Dimensionality and Nonlinearity in Sensitivity Analysis <i>Hany Abdel-Khalik</i>		
10:10 Break				
10:25	Discussion (Salons E,F,G) - Validation Challenges for Advanced Predictive Tools <i>Ralph Nelson and Jim Stewart</i>			
11:30 FREE TIME				

3:45 AFTERNOON REFRESHMENT - South Foyer				
	SESSION 1 - Salon E Reactor Physics <i>Chair: Richard McKnight</i>	SESSION 2 - Salon F Thermal Hydraulics <i>Chair: Qiao Wu</i>	SESSION 3 - Salon G Data and Modeling Errors <i>Chair: Vince Mousseau</i>	SESSION 4 - Salon A Multiphysics Modeling and Simulation <i>Chair: Tom Downar</i>
4:00	The VVQ&UQ Process for Neutronics Code Packages: Issues on Nuclear Data Assimilation and Transposition for the Current and Future Nuclear Systems <i>Patrick Blaise</i>	Database for Verification and Validation of Interfacial Area Transport Equation for Nuclear Thermal-Hydraulics Analysis <i>Takashi Hibiki</i>	Data Assimilation of Two Hurricanes: Rita and Guillermo <i>Jon Reisner</i>	Uncertainty Quantification for Multiphysics LWR Transient Analysis <i>Andreas Pautz</i>
4:25	GNF's Validation Approach for BWR Physics Analysis Codes <i>Russell Stachowski</i>	Local Interfacial Structures Across a 90-degree Vertical Elbow <i>Seungjin Kim</i>	Uncertainty Analysis Using Gradient and Hessian Enhanced Surrogates <i>Markus Rumpfkeil</i>	Multiphysics Analysis of BWR Stability with the US NRC Coupled Code TRACE-PARCS <i>Deokjung Lee</i>
4:50	V&V Strategy of Neutronics Calculation Methods for Sodium Cooled Fast Reactor in Japan <i>Toshikazu Takeda</i>	A Dynamic Flow Regime Modeling Approach for LWR Safety Analysis <i>Xiaodong Sun</i>	Sequential Experiment Design for Predictive Maturity <i>Leslie M. Moore</i>	Modeling, Simulation and Validation of Plant Aging Effect in a Next Generation System Code <i>Nam Dinh</i>
5:15	Physics Design Verification of the ACR-1000® Using the FUGEN Data, Part I: Power Coefficient of Reactivity <i>Doddy Kastanya</i>	TRACE with One-Group Interfacial Area Transport Equation <i>Justin Talley</i>	Homogenized Models of Fluid Flow <i>Steve Shkoller</i>	Advanced Multiphysics Modeling of the PWR Control Rod Ejection Transient <i>Tom Downar</i>
5:40 BREAK				
6:00	Discussion (Salons E,F,G) - Algorithmic Needs for Optimum Design of Experiment and Decision Under Uncertainties <i>Bill Oberkampf and Jim Stewart</i>			
7:00 ADJOURN				
7:30 - 9:00	DINNER (Salons C & D) - Vincent Mousseau – A Holistic View of Reactor Safety			

THURSDAY - May 27

8:00 REGISTRATION - Foyer 2nd Level				
UNCERTAINTY QUANTIFICATION				
	SESSION 1 - Salon E Reactor Physics <i>Chair: Hany Abdel-Khalik</i>	SESSION 2 - Salon F Thermal Hydraulics <i>Chair: Ralph Nelson</i>	SESSION 3 - Salon G Licensing Standards <i>Chair: Bob Martin</i>	SESSION 4 - Salon A Multiphysics/Systems <i>Chair: Kostadin Ivanov</i>
8:30	Consistent Data Assimilation: An Approach for Improving Basic Nuclear Parameters Using Integral Experiment Results <i>Giuseppe Palmiotti</i>	Highly-Resolved Boiling Data for Validation of High-Fidelity Boiling Models and Simulations <i>Jacopo Buongiorno</i>	From Research Tool to Licensing Instrument: New Challenges for Computational Fluid Dynamics Simulations <i>Emilio Baglietto</i>	Validation of Thermal-Hydraulic Computer Code Modeling using OECD/NRCBFBT and PSBT Benchmarks <i>Maria Avramova</i>
8:55	Physics Design Verification of the ACR-1000® Using the FUGEN Data, Part II: PCR Uncertainty Analysis <i>Doddy Kastanya</i>	Validations of CFD for Fuel Assembly Analyses <i>Jin Yan</i>	Licensing Standard for Uncertainty Quantification <i>Wayne Marquino</i>	Error sources considered in the "UMAE drive" CIAU Methodology <i>Francesco D'Auria</i>
9:20	Cross-Section Uncertainty Propagation Techniques for BWR Reactor Simulation <i>Matthew Jessee</i>	MARS Code Analysis for Direct Vessel Injection Line Break Accident with Reduced-height and Reduced-pressure Test Facility <i>Keo-Hyoung Lee</i>	Westinghouse's Best Practices in the Development and Assessment of Realistic Safety Analysis Evaluation Models <i>Cesare Frepoli</i>	Coupling Strategies and Approaches to Validation of Coupled CFD and STH Codes <i>Pavel Kudinov</i>
9:45	New Age Semi-Analytical Benchmarking <i>Barry Ganapol</i>	Adopting the Next Generation Best Estimate Tool: The Issue of Quantification of Uncertainty in Computational Fluid Dynamics Simulations <i>Emilio Baglietto</i>	Perspectives on the Application of Order-Statistics in Best-Estimate Plus Uncertainty Nuclear Safety Analysis <i>Bob Martin</i>	OECD LWR Uncertainty Analysis in Modeling (UAM) Benchmark-status and Results <i>Kostadin Ivanov</i>
10:10	BREAK			
10:25	Discussion (Salons E,F,G)- UQ Challenges for Complex Nuclear Models -Hany Abdel-Khalik and Mihai Anitescu			
11:30	FREE TIME			

3:45	AFTERNOON REFRESHMENT - South Foyer			
	SESSION 1 - Salon E Advanced Data UQ Algorithms <i>Chair: Mihai Anitescu</i>	SESSION 2 - Salon F PRA <i>Chair: Tunc Aldemir</i>	SESSION 3 - Salon G UQ and Decision Making <i>Chair: Paul Turinsky</i>	SESSION 4 - Salon A Multiphysics/Systems <i>Chair: Nam Dinh</i>
4:00	A Multiple-Stochastic-System-Model Based Bayesian Methodology and Parallel Uncertainty Quantification Algorithms for the Validation of Complex Models under Uncertainty <i>Ernesto Prudencio</i>	Efficient Generation of Limit Surface for System Reliability Quantification <i>John Lee</i>	Risk Management and Technology Roadmapping <i>John Collins</i>	Experience with a High-Fidelity Multiphysics Computational Framework: A Case Study on LWR Fuel Reliability <i>Tanju Sofu</i>
4:25	Computational Uncertainty Quantification in Weather Simulations <i>Emil Constantinescu</i>	What PRA Needs from Thermal-Hydraulic Analysis <i>Dana Kelly</i>	A Proposed Technology Neutral Generic Risk Metric <i>Kamiar Jamali</i>	Verification and Validation Challenges for Multi-scale Modeling <i>Ralph Nelson</i>
4:50	Error Estimation in Hybrid Sampling-Sensitivity Methods for Uncertainty Quantification <i>Mihai Anitescu</i>	DET and Scenario Aggregation: A Sensitivity Analysis <i>Diego Mandelli</i>	Licensing Standards for Uncertainty Quantification <i>Wayne Marquino</i>	Notes on on BWR AOO/ATWS Analysis Using TRACE/PARCS <i>Doug Barber</i>
5:15	Uncertainty Quantification by Bayesian Updating of Importance Sampled Evidence <i>Matthew Denman</i>	Efficient Assessment of Epistemic Uncertainty Margins <i>David Grabaskas</i>	Uncertainty Quantification in Design of Sodium-Cooled Fast Reactors <i>Richard D. McKnight</i>	Quantified PIRT using Dimensionless Groups for System Safety Analysis Code Validation <i>Qiao Wu</i>
5:40	BREAK			
6:00	Discussion (Salons E,F,G) Algorithmic Needs for Addressing UQ Challenges - Hany Abdel Khalik and Ralph Nelson			
7:00	ADJOURN			
7:30 - 9:00	DINNER (Salons C & D) - Dan Owen - Concepts, Tools And A Collaborative Process For Decision Making In A Complex, Uncertain Environment.			

FRIDAY - May 28

8:00	REGISTRATION - Foyer 2nd Level
GAP ANALYSIS - Salons E,F,G	
8:30	Reactor Physics - Tom Downar
8:45	Thermal Hydraulics - Vincent Mousseau
9:00	Materials - John Turner
9:15	Multiphysics/System Simulation - Nam Dinh
9:30	BREAK
9:45	Breakout Sessions
11:00	Reactor Physics Group Findings
11:15	Thermal Hydraulics Group Findings
11:30	Materials Group Findings
11:45	Multiphysics/System Simulation Group Findings
12:00	ADJOURN