

Computational Methods in Transport

Saturday September 9, 2006

- 3:30–6:00 *Registration*
- 6:00–7:30 *Dinner*
- 7:30–8:30 *Opening Talk by George Kattawar (Texas A&M)*

Sunday September 10, 2006

- 8:30–9:00 *Validation, Verification and Uncertainty Quantification Methods*
- 8:30–9:00 *Introductory Remarks by Frank Graziani (LLNL)*
- 9:00–9:45 **Martin Pilch** (Sandia National Laboratories)
Measuring and Communicating Progress in Predictive Capability
- 9:45–10:15 *Break*
- 10:15–11:00 **Michaela Saisana** (Joint Research Center - Ispra Establishment)
Critique of Modeling and Sensitivity Analysis in the Scientific Discourse: Overview of Good Practices and Pitfalls
- 11:00–11:45 **Francois Hemez** (Los Alamos National Laboratory)
A Decision-centric View of Verification and Validation
- 11:45–1:30 *Lunch (on your own)*
- 1:30–2:30 **Jon Helton** (Sandia National Laboratories)
Sampling-Based Methods for Uncertainty and Sensitivity Analysis
- 2:30–3:15 **Kenneth Hanson** (Los Alamos National Laboratory)
Role of Uncertainty Quantification in Validating Physics Models
- 3:15–3:30 **Anthony Davis** (Los Alamos National Laboratory)
A Formalized Iterative Approach to V&V, with Examples
- 3:30–4:00 *Break*
- 4:00–4:45 **Kambiz Salari** (Lawrence Livermore National Laboratory)
Code Verification by the Method of Manufactured Solutions
- 5:30–6:30 *Social Hour (Iris)*
- 6:30–12:00 *Dinner*



Monday September 11, 2006

- 8:30–12:00 *HEDP/Neutronics*
- 8:30–9:15 **David Keyes** (Columbia University)
Particle Transport in SciDAC and GNEP
- 9:15–10:00 **Jim Hammer** (Lawrence Livermore National Laboratory)
Radiation transport experiments on the Omega laser
- 10:00–10:30 *Break*
- 10:30–11:15 **John Castor** (Lawrence Livermore National Laboratory)
Verification (mostly) for high energy density radiation transport
- 11:15–12:00 **Nick Gentile** (Lawrence Livermore National Laboratory)
Monte Carlo Transport Code V&V in the High Energy Density Regime
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:45 **Marvin Adams** (Texas A&M University - College Station)
Verification of Transport Codes
- 2:45–3:30 **Paul Turinsky** (North Carolina State University)
Sensitivity/Uncertainty Analysis and Usage in Adaptive Reactor Core Simulation
- 3:30–4:00 *Break*
- 4:00–4:45 **Cecil Parks** (Oak Ridge National Laboratory)
Role of Validation in Development and Use of a Multi-Purpose Nuclear Analysis Code System
- 4:45–5:15 *Discussion*
- 6:00–12:00 *Dinner*

Tuesday September 12, 2006

- 8:30–12:00 *Mathematics*
- 8:30–9:15 **Tom Manteuffel** (University of Colorado, Boulder)
Iterative Methods for Transport Problems
- 9:15–10:15 **Barry Ganapol** (University of Arizona)
The Art of Analytical Benchmarking
- 10:15–10:45 *Break*

(Tuesday schedule continued on next page)

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- 10:45–11:30 **Irene Gamba** (University of Texas at Austin)
Deterministic solvers to transport for non-conservative systems of Boltzmann-Poisson type
- 11:30–12:15 **Anne Bourlioux** (University of Montreal)
A Mathematical Approach to Validating Models and Estimating Modeling Errors for Passive and Reactive Turbulent Transport
- 12:15–2:00 *Lunch (on your own)*
- 2:00–5:00 *Poster Session*
- 5:30–6:30 *Social Hour (Iris)*
- 6:30–12:00 *Dinner*

Wednesday September 13, 2006

- 8:30–12:00 *Astrophysics/Atmospheric Science*
- 8:30–9:15 **Doug Swesty** (SUNY Stony Brook)
Verification and Validation of radiation-transport and radiation-hydro algorithms in astrophysics
- 9:15–10:00 **R. Paul Drake** (University of Michigan)
Using Radiative Shock Experiments and Physical Thinking in Code Validation
- 10:00–10:30 *Break*
- 10:30–11:15 **Mike Norman** (University of California, San Diego)
Verification and Validation of Simulations of Cosmic Reionization
- 11:15–12:00 **Richard Klein** (Lawrence Livermore National Laboratory)
The Formation of High Mass Stars
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:25 **Anthony Davis** (Los Alamos National Laboratory)
Realistic (3D) Radiative Transfer in the Cloudy Atmosphere: A Survey of the Problem Space
- 2:25–3:15 **Alexander Marshak** (NASA)
Atmospheric radiative transfer for satellite remote sensing: validation and uncertainty
- 3:15–4:00 **Howard Barker** (Meteorological Service of Canada)
Atmospheric Radiative Transfer for Global Climate Studies
- 4:00–4:30 *Break*
- 4:30–5:30 *Discussion*
- 5:30–6:30 *Social Hour (Iris)*
- 6:30–12:00 *Dinner*

Thursday September 14, 2006

- 8:30–12:00 *Tools and Wrap-up*
- 8:30–9:15 **Anthony Giunta** (Sandia National Laboratories)
Validation and Uncertainty Quantification Methods in the DAKOTA Software Toolkit
- 9:15–10:00
TBA
- 10:00–10:30 *Break*
- 10:30–11:15 *Discussion*
- 11:15–11:30 *Closing Remarks by Frank Graziani (LLNL)*
- 11:30–1:00 *Lunch (on your own)*
- 1:00–12:00 *Departure*

