

# International RELAP5 Users Group Meeting and RAVEN Training Workshop

## Thursday, May 3, 2018 and Friday, May 4, 2018

### Business Casual:

---

**Argonne National Laboratory**  
Son Pham

**BeIV**  
Alexander Matev

**General Dynamics Electric Boat**  
Andrew Pillman

**Idaho National Laboratory**  
Andrea Alfonsi  
Nolan Anderson  
Paul Bayless  
Yong-Joon Choi  
Jon Cook  
Doug Crawford  
Cliff Davis  
Hope Forsmann  
Paul Humrickhouse  
Casey Jesse  
Diego Mandelli  
Rich Martineau  
George Mesina  
Carlo Parisi  
Cristian Rabiti  
Gary Smith  
Jim Wolf  
Hongbin Zhang

**Innovative Systems Laboratory**  
Doug Barber

**Institute of Nuclear Safety System,  
Inc.**  
Ikuo Kinoshita

**NuScale Power**  
Patrick Byfield  
Karl Schmidt

**Penn State**  
Jacob Gorton  
Cihang Lu

**PVNGS**  
Majid Saba

**SCK-CEN**  
Diego Castelliti

**UJV Rez**  
Pavel Kral

---

Host: Jim Wolf  
Admin Assistant: Brenda Monson

Revision Number 1  
Date agenda revised April 17, 2018

---

**Thursday, May 3, 2018**

**International RELAP5 Users Group Meeting**

**Residence Inn, 635 West Broadway, Idaho Falls, ID 83402**

7:30 Registration

**Chairman: Jim Wolf – INL**

08:00 Welcome and Introduction .....Jim Wolf  
*Idaho National Laboratory, (208) 526-7725*

08:15 Consistent Fluid Property Evaluation for RELAP5-3D..... George Mesina  
*Idaho National Laboratory, (208) 526-8612*

08:45 Development of New 95N Fluid Properties .....Hope Forsmann  
*Idaho National Laboratory, (208) 526-5556*

09:15 PbLi Equations of State..... Paul Humrickhouse  
*Idaho National Laboratory, (208) 526-7496*

09:45 Timing Studies of Recent RELAP5-3D Code ..... George Mesina  
*Idaho National Laboratory, (208) 526-8612*

10:15 Break

**Chairman: Doug Barber – ISL**

10:30 Kinetics Advances in RELAP5-3D..... Doug Barber  
*Innovative Systems Laboratory, (208) 552-6278*

11:00 RELAP5-3D Backup Improvements .....Nolan Anderson  
*Idaho National Laboratory, (208) 526-9323*

11:30 Advancements of PHISICS / RELAP5-3D Package for Time-Dependent  
Transient Calculations..... Andrea Alfonsi  
*Idaho National Laboratory, (208) 526-2324*

12:00 Lunch

**Thursday, May 3, 2018 (continued)**

**International RELAP5 Users Group Meeting (continued)**

**Chairman: Hope Forsmann – INL**

- 01:30 Integrating Classical PRA Models into RELAP5-3D.....Diego Mandelli  
*Idaho National Laboratory, (208) 526-1026*
- 02:00 Application of RELAP5-3D for the Risk Informed External  
Events Analysis.....Carlo Parisi  
*Idaho National Laboratory, (208) 526-2483*
- 02:30 Acceleration of UQ and PRA with RAVEN Hybrid Modeling of a Blend  
of Surrogate and RELAP5-3D Models ..... Andrea Alfonsi  
*Idaho National Laboratory, (208) 526-2324*
- 03:00 Break
- 03:15 Measuring Risk Importance in a Dynamic PRA Framework Using  
RAVEN / RELAP5 .....Diego Mandelli  
*Idaho National Laboratory, (208) 526-1026*
- 03:45 Progress on RELAP7 ..... Rich Martineau  
*Idaho National Laboratory, (208) 526-2938*
- 04:15 Ongoing RELAP5-3D Related Activities at SCKCEN.....Diego Castelliti  
*SCKCEN, 32 14 33 21 86*
- 04:45 Multi-Physics Best Estimate Plus Uncertainty (MP-BEPU)  
Analysis Framework LOTUS and RELAP5-3D..... Hongbin Zhang  
*Idaho National Laboratory, (208) 526-9511*

**06:30 No-Host Dinner: Jakers**

851 Lindsay Blvd.  
Idaho Falls, Id  
(208) 524-5240

**Friday, May 4, 2018**

**International RELAP5 Users Group Meeting (continued)**

**Residence Inn, 635 West Broadway, Idaho Falls, ID 83402**

**Chairman: George Mesina – INL**

- 08:00 RELAP5 / M3.3 – RELAP5-3D – CFD Calculation of Reactor Downcomer  
Velocity and Temperature Fields in PTS Analyses ..... Pavel Kral  
*UJV Rez, 420 720 733 335*
- 08:30 Validation of a Detailed RELAP5-3D Model of TREAT ..... Cliff Davis  
*Idaho National Laboratory, (208) 526-9470*
- 09:00 System Modeling of the HTTR with RELAP5-3D ..... Paul Humrickhouse  
*Idaho National Laboratory, (208) 526-7496*
- 9:30 Break

**International RELAP5 Users Group Meeting Business Meeting**

**Chairman: Jim Wolf – INL**

- 10:00 Business Meeting ..... Jim Wolf  
*Idaho National Laboratory, (208) 526-7725*
  - Review of the 2015 Meeting Minutes
  - Election of new IRUG Vice Chairman
  - Dates for Next Year’s Meeting
- 10:30 Selected User Problems ..... Nolan Anderson  
*Idaho National Laboratory, (208) 526-9323*  
Yong-Joon Choi  
*Idaho National Laboratory, (208) 526-3022*
- 11:15 Licensing, Status, License Fee Structure, and Export Control Status ..... Gary Smith  
*Idaho National Laboratory, (208) 526-3780*
- 11:45 Lunch

**Friday, May 4, 2018 (continued)**

**RAVEN Training Workshop**

**Location**

01:00 RAVEN Overview.....	Cristian Rabiti <i>Idaho National Laboratory, (208) 526-6821</i>
02:00 Uncertainty Quantification on a PWR SBO .....	Carlo Parisi <i>Idaho National Laboratory, (208) 526-2483</i>
03:00 Break	
03:15 Data Mining on a Spent Fuel Pool Accident Scenario.....	Diego Mandelli <i>Idaho National Laboratory, (208) 526-1026</i>
04:15 Reliability Analysis on a BWR SBO.....	Andrea Alfonsi <i>Idaho National Laboratory, (208) 526-2324</i>
05:15 Surrogate Modeling for Safety Analysis Applications .....	Andrea Alfonsi <i>Idaho National Laboratory, (208) 526-2324</i>
06:00 Adjourn	