**RESRAD (onsite), RESRAD-BUILD, and**

**RESRAD-BIOTA Training Workshop**

Conducted at

Argonne National Laboratory

Argonne, IL

July 20-24, 2015

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| ***RESRAD Workshop*** |
|  | **Day 1** |
| 8:40-9:00 | Registration |
| 9:00-9:20 | Opening Remarks/Introduction  |
| 9:20-9:40 | Overview of RESRAD |
| 9:40-10:40 | RESRAD Input Demonstration |
| 10:40-10:50 | Break |
| 10:50-11:30 | RESRAD Output Demonstration |
| 11:30-1:00 | Lunch |
| 1:00-2:00 | RESRAD Case Hands-on |
| 2:00 – 3:00 | RESRAD Methodology |
| 3:00 – 3:40 | Hands-on (deterministic) |
| 3:40 - 3:50 | Break |
| 3:50 – 4:30 | RESRAD Methodology (continued) |
| 4:30 – 5:00 | Hands-on and review |

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|  | **Day 2** |
| 8:40- 9:00 | RESRAD Family of Codes |
| 9:00 – 9:50 | Hands-on and review |
| 9:50- 10:00 | Break |
| 10:00- 10:40 | RESRAD Data Requirements |
| 10:40- 11:00 | Distribution Coefficients |
| 11:00- 11:45 | Hands-on and review |
| 11:45- 1:00 | Lunch |
| 1:00 - 1:40 | RESRAD Sensitivity Analysis |
| 1:40 - 2:30 | Hands-on and review |
| 2:30 - 3:00 | Dose and Risk Coefficient and DCF Editor |
| 3:00 - 3:10 | Break |
| 3:10 - 3:45 | Problem Solving- An Example  |
| 3:45 - 4:00 | RESRAD Verification & Validation |
| 4:00 - 4:45 | Hands-on/Course Evaluation |

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| ***RESRAD–BUILD Workshop Agenda*** |
| **Day 3** |
| 8:40 – 8:50 | Introduction |
| 8:50 – 9:15 | RESRAD–BUILD Overview |
| 9:15 – 10:00 | RESRAD–BUILD Input Demo |
| 10:00 –10:10 | Break |
| 10:10 –10:30 | RESRAD–BUILD Output Demo |
| 10:30 –11:15 | Hands–on |
| 11:15 –11:45 | RESRAD–BUILD Methodology |
| 11:45 – 1:00 | Lunch |
| 1:00 – 1:40 | RESRAD–BUILD Methodology (cont’d) |
| 1:40 – 2:30 | Hands–on and review |
| 2:30 – 2:50 | Advanced Features Demonstration |
| 2:50 – 3:00 | Break |
| 3:00 – 3:45 | Hands–on and review |
| 3:45 – 4:10 | Input Data Requirements – An Example |
| 4:10 – 4:20 | Problem Solving Techniques |
| 4:20 – 4:25 | Verification and Validation |
| 4:25 – 4:45 | Hands–on/Course Evaluation |

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| ***RESRAD-BIOTA Workshop Agenda***  |
|  | **Day 4** |
| 8:40 – 8:45 | Introduction and Course Overview |
| 8:45 – 9:15 | Regulatory and Evaluation Framework for Radiation Protection of the Environment |
| 9:15 – 9:35 | RESRAD-BIOTA Overview |
| 9:35 – 10:10 | RESRAD-BIOTA Input Demo |
| 10:10 –10:20 | Break  |
| 10:20 –10:40 | RESRAD-BIOTA Output Demo |
| 10:40 – 11:20 | DOE Graded Approach Methodology  |
| 11:20 – 12:00  | Hands–on Problem 1 (General Screening and Site-Specific Screening) |
| 12:00 – 1:15 | Lunch |
| 1:15 – 1:35 | Methodology, cont. |
| 1:35 – 1:50 | Sensitivity Analysis Feature |
| 1:50 – 2:10 | Hands–on Problem 2 (Sensitivity Analysis) |
| 2:10 – 2:20 | Hands–on Problem 2 Review |
| 2:20 – 2:50 | Organism Wizard Feature |
| 2:50 – 3:00 | Break |
| 3:00 – 3:40 | Hands-on Problem 3 (Site-specific Analysis) |
| 3:40 – 4:30  | Case Study I & Hands-on Problem 3 Review – Hanford 300 Area |

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|  | **Day 5** |
| 8:40 – 8:55  | Data Import/Export Feature / Graphics and Reports |
| 8:55 – 9:15 | Hands–on Problem 4 & Review (Data Import/Export /Graphics/Reports) |
| 9:15 – 10:00 | Principles of Ecological Risk Assessment |
| 10:00 – 10:10 | Break |
| 10:10 –10:40 | Case Study II (China Lake) |
| 10:40 – 11:20  | Derivation of DCFs in RESRAD-BIOTA |
| 11:20 – 12:00 | Hands-on Problem 5  |
| 12:00 – 1:15 | Lunch |
| 1:15 – 1:30 | Hands-on Problem 5 Review |
| 1:30 – 2:00 | Food Chain Specifications in RESRAD-BIOTA |
| 2:00 – 2:30 | Probabilistic Analysis in RESRAD-BIOTA |
| 2:30 – 2:50 | International Model Comparison Studies on Biota Dose Assessment |
| 2:50 – 3:00  | Break  |
| 3:00 – 3:50  | Hands-on Problems 6 & 7  |
| 3:50 – 4:20 | Fukushima Wildlife Dose Reconstruction and Hands-on Exercise |
| 4:20 – 4:30 | Course Evaluation and Distribution of Training Certificates |
| 4:30 | Adjourn |