



## 2013 NASA IV&V Workshop Call for Papers The Fifth International Workshop on Independent Verification & Validation (IV&V) of Software

September 10-12, 2013  
Virtual Conference

The NASA IV&V Annual Workshop offers an in-depth understanding of the challenges that V&V organizations face in assuring that system software operates safely and reliably. The goal of the workshop is to generate solutions to these challenges. This year, we will be offering topics in three different tracks, as indicated in the tables below. **To participate in this workshop, you must submit an abstract (maximum 4000 characters, including spaces) by June 30, 2013.** Abstracts will be reviewed for relevancy to this workshop. A new feature of this year's workshop will give authors the option of preparing a paper that will be presented in proceedings to be published at the completion of the workshop. If an abstract is deemed relevant, the author will be invited to prepare a draft of his or her final paper. All final paper drafts will be reviewed for acceptance as either a poster presentation or an oral presentation at this year's workshop.

All abstracts are to be written in English. An electronic version (PDF or MS Word format) should be submitted via email to [Lisa Downs at Sadie.E.Downs@nasa.gov](mailto:Lisa.Downs@nasa.gov)

### IMPORTANT DATES

June 30, 2013	Abstract submission Due
July 15, 2013	Notification of Acceptance
June 1, 2013	Attendee Registration Opens
August 31, 2013	Final Papers/Presentations Due
August 31, 2013	Attendee Registration Closes

### CONTACT INFORMATION

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Technical Committee and Annual IV&V Workshop Co-Chair: Stephen Husty, [Stephen.Husty@nasa.gov](mailto:Stephen.Husty@nasa.gov)

<http://www.nasa.gov/centers/ivv/workshops/index.html>

We are currently seeking technical paper, poster and demo submissions in the areas noted below.

<b>MANAGEMENT TRACK</b>
Optimizing IV&V Planning and Execution
<i>Analysis Framework Reuse (i.e., developer-specific mission analysis frameworks)</i> <i>Development and Application of Assurance Case Structures</i> <i>Efficiency Measurement and Continuous Improvement</i> <i>Unified IV&amp;V Analysis Process</i>
IV&V Analysis Work Optimization Tips and Techniques
<i>Application of Common Office Tools in Reducing Burden of IV&amp;V Analysis and Evidence Collection</i> <i>Use of Shared Data Dictionary for Improving Commonality of Terms of Reference Between Projects</i>
IV&V Infrastructure and Stakeholder Community Support
<i>IV&amp;V Education Challenges</i> <i>IV&amp;V Skills Development and Certification</i>
Efficient Risk Management in IV&V
Computing the Value of IV&V
Integrating NASA Assured Systems with Commercial Assured Systems
Commercial Space Systems IV&V
IV&V Challenges and Opportunities of SDLC Choices and Applicable Lessons Learned
Extending NASA IV&V Methods and Tools Applicability to Other Domains
<i>New York City 911</i> <i>DOD</i> <i>FAA</i> <i>Law Enforcement</i> <i>Automotive</i>

<b>TECHNICAL TRACK</b>
IV&V Analysis Case Studies
Addressing Security Aspects of System Assurance via IV&V
Development and Application of IV&V Technical Reference Solutions
Assurance of Model-based Development
<i>Automated Software Specification</i>
<i>Automated Software Design and Synthesis</i>
<i>IV&amp;V of Autogenerated Code</i>
Writing a "Good" Assurance Claim
Architecture Frameworks as Applied to NASA Systems
Software Assurance of Complex Algorithms
Criticality Analysis
Data Product IV&V
<i>Data Integrity</i>
<i>Data Visualization</i>
Patterns and Frameworks Applied to IV&V Analysis
Off-nominal Operations
Software-based Hazard Causes, Contributors and Controls

<b>R&amp;D TRACK</b>
Special-Case IV&V Challenges
<i>Challenges of IV&amp;V of Projects Using Other Than Waterfall SDLC</i>
<i>Performing IV&amp;V on an En Route Project</i>
<i>IV&amp;V of Auto-generated Code</i>
<i>Highly Parallel Development Projects</i>
IV&V Test Verification Methodologies
<i>Autonomous Systems IV&amp;V</i>
<i>Robotic Systems IV&amp;V</i>

<p><i>IV&amp;V of Early Lifecycle Artifacts</i></p> <p><i>Partitioned Systems</i></p> <p><i>Swarm Intelligence</i></p> <p><i>Adaptive Systems</i></p>
<p>Application of Assurance Case Methodology to Assuring Autonomous Systems</p>
<p>Initiating and Evolving IV&amp;V Methods</p>
<p><i>Use of Simulations in Performing IV&amp;V</i></p> <p><i>IV&amp;V of Critical Behavior</i></p> <p><i>Improving Effectiveness and Efficiency of IV&amp;V Methods</i></p>
<p>Evolving Technology Impacts on IV&amp;V Analysis Methodologies</p>
<p><i>The Future of Software Development and Its Impact on IV&amp;V</i></p>
<p>Innovative Uses of Non-traditional IV&amp;V Tools to Improve IV&amp;V Analyses</p>
<p><i>Crowd Sourcing as a Prototype for Code Validation</i></p> <p><i>Towards Content/Context-based and Collaborative IV&amp;V</i></p> <p><i>Application of Data Mining Tools to Support IV&amp;V</i></p> <p><i>Applying Social Media to IV&amp;V</i></p> <p><i>Knowledge Engineering Tools and Techniques</i></p> <p><i>Knowledge Representation and Retrieval</i></p> <p><i>Knowledge Visualization</i></p>
<p>Integrity, Security and Fault Tolerance Assessments in IV&amp;V</p>
<p>Fault Management Architecture and Implementation IV&amp;V</p>
<p>Team-based Approach to Performing IV&amp;V of Systems</p>
<p><i>Computer-Supported Cooperative Work</i></p>
<p>Verifying Scripts</p>
<p>Providing Assurance of Enterprise Software, Middleware and Tools</p>
<p>Performance-based Design Assurance</p>
<p>Formal Methods: Current Tools and Practical Applications</p>