

# CALL FOR PAPERS

## Second NASA Formal Methods Symposium (NFM 2010)

April 13-15, 2010 Washington, D.C.

<http://shemesh.larc.nasa.gov/NFM2010>

The NASA Formal Methods community invites you to submit a paper to NFM 2010, the Second NASA Formal Methods Symposium.

### Important Dates:

**Submission (abstract):** January 8, 2010  
**Submission (final):** January 15, 2010  
**Notification:** February 26, 2010  
**Final version:** March 19, 2010

### Theme of Conference:

The NASA Formal Methods Symposium is a forum for theoreticians and practitioners from academia and industry, with the goals of identifying challenges and providing solutions to achieving assurance in safety-critical systems. Within NASA, for example, such systems include autonomous robots, separation assurance algorithms for aircraft, and autonomous rendezvous and docking for spacecraft. Moreover, emerging paradigms such as code generation and safety cases are bringing with them new challenges and opportunities. The focus of the symposium will be on formal techniques, their theory, current capabilities, and limitations, as well as their application to aerospace, robotics, and other safety-critical systems. The symposium aims to introduce researchers, graduate students, and partners in industry to those topics that are of interest, to survey current research, and to identify unsolved problems and directions for future research.

NFM 2010 is the second edition of the NASA Formal Methods Symposium, which started in 2009 and was organized by NASA Ames Research Center in Moffet Field, California. The symposium originated from the earlier Langley Formal Methods Workshop series and aims to foster collaboration between NASA researchers and engineers, as well as the wider aerospace, safety-critical, and formal methods communities.

### Topics of Interest:

- Formal verification, including theorem proving, model checking, and static analysis
- Automated test generation and formal testing of critical systems
- Model-based development
- Techniques and algorithms for scaling formal methods, such as abstraction and symbolic methods, compositional techniques, as well as parallel and distributed techniques
- Monitoring and run-time verification
- Code generation from formally verified models
- Safety cases
- Accident/safety analysis
- Formal approaches to fault tolerance
- Theoretical advances and empirical evaluations of formal methods techniques for safety-critical systems, including hybrid and embedded systems
- Formal methods in systems engineering

### Submissions:

There are two categories of submissions, to be formatted in the EasyChair class style (<http://www.easychair.org/coolnews.cgi>):

- Regular papers describing fully developed work and complete results (10 pages / 30 minute talks)
- Short papers describing interesting work in progress and/or preliminary results (5 pages / 15 minute talks)

All papers should describe original work that has not been published elsewhere. Submissions will be fully reviewed and the symposium proceedings will appear as a NASA Conference Publication. Authors of selected papers will then be invited to submit extended versions to a special issue of *Innovations in Systems and Software Engineering: A NASA Journal* (Springer).

### For Further Information:

[nfm2010@lists.nasa.gov](mailto:nfm2010@lists.nasa.gov)

Mike Hinchey, NFM 2010 Conference Chair

César Muñoz, NFM 2010 Program Chair