

**YOU'RE INVITED!**

# FREE WORKSHOP FOR ENGINEERS

HUNTSVILLE, ALABAMA OCTOBER 15, 2019

## Static Runtime Error Detection & MISRA Compliance Checking

INCLUDES TECHNICAL DISCUSSIONS:

Timing Analysis Worst-Case Execution

TimeStack Analyzer Worst-Case Stack Usage

### SKILLS GAINED FROM THIS WORKSHOP

- Deeper understanding of safety/security requirements for safety-critical code
- Get to know state-of-the-art static program analysis tools supporting the development of safe applications
- Use Astrée to prove the absence of RTEs and data races on sample code
- Use RuleChecker to automatically check adherence to coding guidelines like MISRA that aim to prevent RTEs



# FREE COMPREHENSIVE SEMINAR FOR ENGINEERS

In-depth presentation on static runtime error detection and MISRA compliance checking using Astrée. Astrée is a static code analyzer that proves the absence of run time errors and invalid concurrent behaviour in safety-critical software written or generated in C.

## Including Technical Discussion on:

- aiT WCET Analyzers: statically compute tight bounds for the worst-case execution time (WCET) of tasks in real-time systems. They directly analyze binary executables and take the intrinsic cache and pipeline behavior into account.
- TimingProfiler: helps you identify application parts that cause unsatisfactory execution times. It delivers results as soon as there is compiled code, and thus can be used very early in the development process, when measurements on physical hardware are costly or plain impossible.
- StackAnalyzer: automatically determines the worst-case stack usage of the tasks in your application. It lets you find any stack overflows, or formally prove the absence thereof.

## AGENDA

### Morning Session

09:00 – 10:30 Static Analysis as a Verification Method for Safety-Critical Systems

10:30 – 11:00 Coffee break

11:00 – 12:00 In-depth Overview on State-of-the-art Tools Support the Validation, Verification, and Certification of Safety-critical Applications

12:00 – 13:00 Lunch break

### Afternoon Session

13:00 – 14:00 Proving the Absence of Runtime Errors and Data Races \*hands-on session \*

14:00 – 14:30 Coffee break

14:30 – 15:30 Proving the Absence of Runtime Errors and Data Races \* hands-on session \*

15:30 – 15:45 Q&A and Wrap-up

**Limited to 20 Engineers. Register now: [registernow@joraltechnologies.com](mailto:registernow@joraltechnologies.com)**

