

# Call for Contributions

## Submission:

1. **Inform the Chairs:** with the Title of your Contribution

2. **Submission URL:**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ICSEA+2019+Special>

Please select Track Preference as **SMV**

Special track

## **SMV: Software Modeling and Verification**

### **Chairs and Coordinators**

Dr. Sidra Sultana, Asst. Prof. NUST, Pakistan

Dr. Rabia Irfan, Asst. Prof. NUST, Pakistan

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along with

**ICSEA 2019**, The Fourteenth International Conference on Software Engineering Advances  
November 24, 2019 to November 28, 2019 - Valencia, Spain

<https://www.iaria.org/conferences2019/ICSEA19.html>

Formal methods help in quantifying the functional and nonfunctional requirements that are later used in the verification process for safety assurance in real-time systems. System formalism is a crucial step in terms of exploring system's behavior and listing the non-functional requirements. In the context of real-time systems, the non-functional requirements refer to the verification properties of the system. Formalism in software development life cycle refines every process, starting from the formalization of system's requirements, analysis of system's behavior and exploring its properties, implementation of the problem's solution under consideration and verification of safety critical properties. Rule-based Expert Systems help in inferring unknown on the basis of some known input, that is, knowledge and rule-set. Knowledge comprises of something known by an individual called as an expert of that domain. It requires an expert skill set (that is, syntax and notations of the Model Checker and Verifier) in order to model and verify some system in Model Checkers like UPPAAL.

Software models are ways of expressing a software design. Usually, some sort of abstract language or pictures are used to express the software design. For object-oriented software, an object modeling language such as UML is used to develop and express the software design. There are several tools that you can use to develop your UML design.

In almost all cases a modeling language is used to develop the design not just to capture the design after it is complete. This allows the designer to try different designs and decide which will be the best for the final solution. Think of designing your software as you would think for building a house. You start by drawing a rough sketch of the floor plan and layout of the rooms and floors. The drawing is your modeling language and the resulting blueprint will be a model of your final design.

### **Topics include, but not limited to:**

1. Formalism in Real Time Systems
2. Automation of Modeling
3. Automation of Software Verification
4. Translating Model Checker
5. Modeling of Real Time System
6. Simulation in Real Time System

7. Verification of Critical properties
8. Other topics might touch
  - a. Mathematical models of real-time systems and associated formal verification techniques such as model checking, probabilistic modeling and verification,
  - b. Programming and description languages, and validation approaches based on testing.

### **Important Datelines**

Inform the Chair (see Contacts below): as soon as you decide to contribute

Submission: Sep 18, 2019

Notification: Oct 17, 2019

Registration: Oct 27, 2019

Camera-ready: Oct 27, 2019

### **Contribution Types**

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Presentations: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Demos: two pages [posted on [www.iaria.org](http://www.iaria.org)]

### **Paper Format**

- See: <http://www.iaria.org/format.html>

- Before submission, please check and comply with the editorial rules: <http://www.iaria.org/editorialrules.html>

### **Publications**

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

### **Paper Submission**

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### **Registration**

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

### **Contacts**

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