Modularity Across the Software Ecosystem: Call for Research Papers

Major organizations are now planning, building, and will soon rely upon software-intensive systems the complexity of which will pose extraordinary technical and managerial challenges. Modularity and abstraction are essential tools for managing such complexity. The time has come, however, to consider modularity not only of code, but across lifecycle artifacts (e.g., from requirements to test), and not only involving software artifacts, but indeed whole software ecosystems, including the organizations and processes that define, develop, deploy, operate, protect, evolve and use these systems. The 8th International Conference on Aspect-Oriented Software Development (AOSD.09) will bring together an international community of academic and industrial researchers and industrial practitioners from across sub-fields of computer science and engineering who are working to advance our understanding and use of modularity and abstraction across all levels in complex software-intensive systems. AOSD.09 invites high-quality papers reporting documented research results emerging from work in computer systems, software engineering, programming languages, and other areas. Research areas and topics of interest include, but are not limited to, the following:

Software engineering
- Requirements engineering
- Analysis and design modeling
- Domain engineering
- Software architectures
- Evaluation and metrics
- Modular Reasoning
- Testing and verification
- Aspect interference and composition
- Traceability
- Software development methods
- Patterns

Programming languages
- Domain-specific aspect languages
- Semantics and type systems
- Compilation and static program analysis
- Execution environments & dynamic weaving

Related paradigms
- Model-driven development
- Generative programming
- Software product lines
- Meta-programming
- Contracts and components

Tool support
- Aspect mining
- Evolution and reverse engineering
- Crosscutting program views
- Refactoring

Applications
- Distributed/concurrent systems
- Middleware, web services, and networking
- Pervasive computing
- Runtime verification
- Performance improvement

Industry Track
Do you have insights about AOSD and future needs in this area based on experience using, or industrial analysis of, AOSD concepts, methods and tools in commercial-scale projects, products, or open source solutions? Do you have a unique perspective on the needs of industry for modularity in future systems? AOSD.09 seeks high-quality papers reporting insights and supporting analysis and data.

Workshops
AOSD has long served as the wellspring for a rich ecosystem of research workshops. We invite proposals for one-day workshops at AOSD.09. We encourage proposals that deal with major challenges and plausible but high-risk, high-return ideas. Papers reporting tested results should be submitted to the main conference. In AOSD workshops, we strongly promote discussion over conference-like paper sessions.

Demonstrations
Demonstrations serve to disseminate advances embodied in research-oriented tools and systems that use or support AOSD. Attendees learn about emerging technologies and have opportunities to interact with their developers. Presenters gain excellent opportunities to increase the visibility and impact of their work. AOSD.09 solicits high quality proposals for its demonstration track.