



**MICCAI 2012: Fifth International Workshop on Systems and Architectures for Computer Assisted Interventions (SACAI)
October 5, 2012**

Open interfaces/frameworks increase the pace of research and discovery by promoting collaborations within and between clinicians, biomedical engineers, and software developers. These systems usually employ modular architectures to model the complexity involved in surgical assistance systems. Hence, standards are critical to allow for cross-framework interoperability of systems, and modules.

SACAI workshop aims to establish a forum for discussing systems and architectures for computer assisted intervention (CAI) applications. Continuing the success of the series, the workshop will focus on open interfaces, interoperability, and standards. In addition, this year, we will discuss clinical applications and future directions of CAI systems and frameworks. The workshop will continue to include the robust discussion between industry and academia. Topics of interest include (but are not limited to):

- Architectures and Frameworks for Computer Assisted Interventions -- *including dissemination of such frameworks and applications and use cases of such architectures.*
- Systems integration and the digital operating room
- Applications for computer assisted surgery
- Progress and status of standardization efforts, such as DICOM, IHE, CANopen, ISO 11073, MD FIRE, MD ICE, IEC 80001
- Open issues in the standardization process, e.g. semantics, standardized descriptions of components and device communication
- Regulatory and liability issues and solutions for the modularization of CAI systems
- Opportunities for further integration and interoperability
- Discussion of successes and unmet needs

A link to the submission system in the MIDAS journal will be available soon on the workshop website:

<https://visr.lcsr.jhu.edu/wiki/index.php/Sacai2012>

All contributions will be reviewed by three reviewers, and outstanding contributions will be selected as interactive presentations, podium presentations or posters.

Deadlines:

Submission: ***June 20, 2012 (extended)***
Availability of Reviews: ***July 7, 2012***

Agenda Outline

Time	Description
9:00	Welcome remarks
9:30	Platform Presentations: Open frameworks, toolkits, interfaces for CAI
10:30	Break
10:45	Panel discussion #1 (Open interfaces and frameworks)
11:15	Industry presentations
12:00	Lunch break
13:00	Interactive/Poster Presentations
14:00	Platform Presentations: standardization activities
14:30	Panel discussion #2 (challenges in the standardization process)
15:30	Platform Presentations: Clinical applications
17:00	Panel discussion #3 (successes and unmet needs)

Organizers

Rajesh Kumar	Visual Imaging and Surgical Robotics Laboratory, Department of Computer Science, Johns Hopkins University, USA
Andinet Enquobahrie	Kitware, Inc., USA
Oliver Burgert	Reutlingen University
Stefan Bohn	Innovation Center Computer Assisted Surgery (ICCAS), University of Leipzig, Germany
Kiyo Chinzei	National Institute of Advanced Industrial Science and Technology (AIST), Japan
Nobuhiko Hata	Brigham and Women's Hospital, USA
Peter Kazanzides	Center for Computer-Integrated Surgical Systems and Technology (CISST ERC), Johns Hopkins University, USA

Contact Information

[Rajesh Kumar](#) (rajesh@jhu.edu)
[Visual Imaging and Surgical Robotics Laboratory](#),
Department of Computer Science,
Johns Hopkins University,
Baltimore, Maryland, USA