

**AAA 2015**

## **2nd Workshop on Argument for Agreement and Assurance (AAA 2015)**

Kazuko Takahashi<sup>1</sup>, Kenji Taguchi<sup>2</sup>, Tim Kelly<sup>3</sup>, and Hiroyuki Kido<sup>4</sup>

<sup>1</sup> Kwansei Gakuin University, Nishinomiya, Japan

<sup>2</sup> National Institute of Advanced Industrial Science and Technology, Amagasaki, Japan

<sup>3</sup> University of York, York, UK

<sup>4</sup> The University of Tokyo, Tokyo, Japan

In recent decades, argument has been an attractive research topic in artificial intelligence. Research has examined formal models of argumentation defining the semantics of logic programming or nonmonotonic reasoning, the application of persuasion in multi-agent environments, and tools for argumentation analysis or visualization. Using argument is considered an effective approach to resolve inconsistencies and to achieve agreement.

On the other hand, there is also growing interest in assurance cases in safety engineering, where the logical analysis of arguments by Toulmin is much appreciated. Many safety-related standards/guidelines currently mandate the submission of safety cases to certification bodies. Argument is being used in the system development to improve accountability to their customers.

The First Workshop on Argument for Agreement and Assurance was held in 2013, with the goal of deepening a mutual understanding and exploring a new research field involving researchers/practitioners in formal and informal logic, artificial intelligence, and safety engineering working on agreement and assurance through argument. The Second Workshop on Argument for Agreement and Assurance took place at Keio University, Kanagawa, Japan on November 17, 2015. This was held as an international workshop of the seventh JSAI International Symposia on AI (JSAI-isAI 2016), sponsored by The Japan Society for Artificial Intelligence (JSAI).

There were about 20 participants, with eight presentations, one posters-and-demos presentation, three demonstrations and two invited talks.

Ewen Denney gave an invited talk on formalization using argumentation in assurance cases and practical applications based on this. In cooperation with the Ninth International Workshop on Juris-informatics (JURISIN 2015), Phan Minh Dung gave an invited talk on his current research on an argumentation framework based on the strength of inference rules.

The general sessions included a variety of presentations covering material ranging from theoretical work and methodology to demonstrations of practical tools. From these, three were selected as contributions to the post-proceedings. Caminada and Sakama discussed formal criteria for determining whether one agent is more informed than another. Rushby proposed a two-part process using epistemic methods and deductive logic for the interpretation of assurance case arguments. Kido introduced an

argumentation framework and its semantics into a decision-tree and presented a method of learning argument acceptability.

We thank all of the reviewers for their valuable comments, all the participants for fruitful discussions, Change Vision Inc. for financial support, and JSAI for giving us the opportunity to hold this international workshop.

Kazuko Takahashi, Kenji Taguchi, Tim Kelly and Hiroyuki Kido  
(AAA 2015 organizers)