



**IJCAI-16**

# **General Intelligence in Game-Playing**

## **Agents (GIGA'16)**

**Workshop at [IJCAI'16](#)**

---

### **General Information**

Artificial Intelligence (AI) researchers have for decades worked on building game-playing agents capable of matching wits with the strongest humans in the world, resulting in several success stories for board games like chess and checkers and computer games such as StarCraft, Pac-Man and Unreal Tournament. The success of such systems has been partly due to years of relentless knowledge-engineering effort on behalf of the program developers, manually adding application-dependent knowledge to their game-playing agents. The various algorithmic enhancements used are often highly tailored towards the game at hand.

Research into general game playing (GGP) aims at taking this approach to the next level: to build intelligent software agents that can, given the rules of any game, automatically learn a strategy for playing that game at an expert level without any human intervention. In contrast to software systems designed to play one specific game, systems capable of playing arbitrary unseen games cannot be provided with game-specific domain knowledge a priori. Instead, they must be endowed with high-level abilities to learn strategies and perform abstract reasoning. Successful realization of such programs poses many interesting research challenges for a wide variety of artificial-intelligence sub-areas including (but not limited to):

- applications
- computational creativity
- computational game theory
- evaluation and analysis
- game design
- imperfect-information games
- knowledge representation
- machine learning
- multi-agent systems
- opponent modeling
- planning
- reasoning
- search

The aim of this workshop is to bring together researchers from the above sub-fields of AI to discuss how best to address the challenges

of and further advance the state-of-the-art of general game-playing systems and generic artificial intelligence. Work which is appropriate for the workshop requires, but not is not limited to, work related to the General Game Playing Competition and the General Video Game Playing Competition.

The workshop is one-day long and will be held onsite at IJCAI July 9-11th (exact date TBA).

## **Information for Authors**

The workshop papers should be submitted online (see workshop webpage). Submitted papers must adhere to the IJCAI paper formatting instructions and not exceed 8 pages (including references). The papers must present original work that has not been published elsewhere. However, submissions of papers that are under review elsewhere are allowed. All papers will be peer reviewed and non-archival working notes produced containing the papers presented at the workshop.

### **Important dates:**

- Paper submission: April 18th, 2016
- Acceptance notification: May 27th, 2016
- Camera-ready papers due: June 10th, 2016
- Workshop date: July (9th, 10th, or 11th) 2016

If you are interesting in attending the conference without submitting a paper please send a short statement of interest to either one of the co-chairs listed below no later than May 27th.

## **Workshop Organizers**

### **Organizers:**

- Stephan Schiffel, Reykjavik University (co-chair)
- Michael Thielscher, University of New South Wales (co-chair)
- Julian Togelius, New York University (co-chair)

### **Program Committee:**

- Tristan Cazenave, University of Paris-Dauphine
- Michael Genesereth, Stanford University
- Lukasz Kaiser, University of Paris-Diderot
- Simon Lucas, University of Essex
- Jacek Mandziuk, Warsaw University of Technology
- Diego Perez, University of Essex
- Ji Ruan, Auckland University of Technology
- Abdallah Saffidine, University of New South Wales
- Spyridon Samothrakis, University of Essex
- Tom Schaul, Google Deep Mind
- Sam Schreiber, Google Inc.
- Nathan Sturtevant, University of Denver
- Mark Winands, Maastricht University