Dear Reader,

Please join me in the celebration of the theories of agency and their applications with this inaugural issue of the brand new and one of a kind *International Journal of Agent Technologies and Systems (IJATS)*. In the editorial piece for this issue, I want to highlight the motivation for and the underlying philosophy of this journal, and introduce you to the five distinguished state of the art invited articles that this very issue consists of.

Chances are that you have a pet or an infant (perhaps both). You probably share our fascination in watching them learn new environments and interact with them and other agents in these environments. What hooked me up to this research area early in my career was the intrigue in watching infant exploration of an environment and human interaction with their pets. I am personally fascinated by the emergent behaviors in agents and their societies, regardless whether they are artificial or biological, homogenous or heterogeneous. How people think, make decisions, communicate, and imitate each other are questions that have always been challenging to me. So via the study of artificial intelligence and robotics for some fifteen years, I am at a comfortable place now when I can revisit these questions that have always bugged me.

And everyone else that researches in the areas that *IJATS* covers has his/her personal story from where the passion for studying this emergent cross/interdisciplinary area stems. There is no mainstream research here (yet), and as such, this journal encourages novel approaches to the study of all aspects of agents and multi-agent systems, thus itself acting as an agent itself in building a bona fide science of Agent Technologies and Systems.

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The goal of the journal is to increase awareness and interest in agent research, encourage collaboration and give a representative overview of the current state of research in this area. It aims at bringing together not only scientists from different areas of computer science, but also researchers from different fields studying similar concepts. The journal will serve as an inclusive forum for discussion on ongoing or completed work in both theoretical and practical issues of intelligent agent technologies and multi-agent systems. It focuses on all aspects of agents and multi-agent systems, with a particular emphasis on how to modify established learning techniques and/or create new learning paradigms to address the many challenges presented by complex real-world problems.

We created this journal to disseminate and discuss high quality research results on emerging technologies and successful systems based on the agent and multiagent paradigms, with a
comprehensive coverage and understanding of the implications of these paradigms from and to various fields of science, engineering, and technology. It is an interdisciplinary journal that brings together researchers from academia, industry, and the government in discussing conceptual and implementation issues in using the agent approach in solving real life problems. It also acts as a medium of communication among those researchers and practitioners with interest in exploring the benefits of the concepts, simulations, constructions, and applications of theories of agency beyond disciplinary boundaries. We see a need for an open forum for exchange of ideas, so that neither of us reinvents the wheel. Often times the solutions we are looking for has be found in a different discipline in a different context.

The International Journal of Agent Technologies and Systems publishes original contributions in the areas of theories of agency and multiagent systems. It covers conceptual frameworks, case studies, empirical analysis, analytical and simulation models of agent anthropologies and sociologies, and their application.

*IJATS* covers topics that include the following general areas: Conceptual Agent Frameworks (Agent Development Environments, Agent Models and Architectures, Representation of Agents and Representation in Agents, Modeling Other Agents and Self, Developmental and Cognitive Agents, Knowledge Management and Ontologies), Simulations and Constructions of Agents (Agent-Based Modeling and Simulation, Tools and Cases, Agent-Based Social Simulations, Emergent Behavior in Agents and Agent Societies, Multi Robot Systems, Robot Teams), Multiagent Systems (Learning In Multi-Agent Systems, Social and Organizational Structure In Agent Societies, Inter-agent Interaction, Agent Languages, Information Propagation and Exchange In Multi-Agent Systems, Artificial Social Systems, Homogenous and Heterogeneous Agent Societies, Colonies and Swarm Intelligence), and Applications (Human-Agent Interaction, Interface Agents, Virtual Humans, Software and Pervasive Agents, Agent-Based Data Mining, Agent-Oriented Software Engineering, Agents in Electronic Business and Virtual Organizations, Ethical and Legal Issues Pertaining to Agency and Multi-Agent Systems). Naturally the topics are not intended to act as requirements but rather as examples of acceptable topics that are of interest to *IJATS*.

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The associate editors and the members of the editorial board have been carefully selected to span over the most predominant efforts in the agency and multiagent systems study, and come from academic, industry and governmental institutions from around the globe. They are anxiously waiting for the influx of article submissions. So, if you are reading this editorial, consider reporting your research with us, or encourage a colleague to do so.

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When you have the time, visit *IJATS* space in SecondLife (SecondLife, n.d). We are located at Dreyfus(224,96) (Trajkovski & Braman, 2008). As time progresses, we will be introducing contents and activities supplementing *IJATS*, so make sure you stop by, say “Hi” and check often of the announcement on our announcement boards. Right now *IJATS* space is adjacent to the space of the Virtual Cognitive Agency and Robotics Laboratory (v-CARoL), and this decision was not made at random.

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Before you in this issue of *IJATS* you have a selection of five articles that were invited to set the tone of the Journal.

Koehler’s article examines how agents and environments are oriented in time and this orientation’s relevance to observing and interpreting emergent phenomena. He argues that the proposed temporal deepening of how simulations are constructed involving interaction of multiple temporalities could lead to the unexpected triggering of cascades of secondary emergences.

Goldspink’s article documents the findings of research into the governance mechanisms
within the distributed on-line community of Wikipedia, and the role of normative mechanisms in achieving social self-regulation.

The article by Kulakov et al. overviews the attempts to use Inductive Logic Programming (ILP) as a machine learning technique in the context of embodied autonomous agents, and highlights novel efforts in bridging the problems between the large datasets and ILP in these agents.

In the next article, Trajkovski et al. present a rather general fuzzy-logic based framework for cognitive robotics modeling, with numerous case studies that illustrate both the power of the modeling tool and the interactivist approach to agency that the authors subscribe to.

In the last article of the issue, Braman takes the interactivist approach from Trajkovski’s article, and studies one of its applications—the so-called Izbushka experiment, an intelligent artificial agent that couples with a human agent learning specific patterns in an environment with limited context.

So, without further ado, I invite you to start reading the articles of the first issue of IJATS.

Sincerely,

Goran Trajkovski, Editor-In-Chief of IJATS

In Savannah, GA, USA on June 23, 2008

REFERENCES


Goran Trajkovski is the director of Product Design for Information Technology at Laureate Education, Inc. and the CEO of Algoco Consulting. He was the chair of the Department of Information Technologies of South University and associate professor of IT at its Savannah, GA campus. He was previously the founding director of the Cognitive Agency and Robotics Laboratory (CARoL) at Towson University, Towson, MD, USA. The virtual version of CARoL now exists in SecondLife. He also taught at Towson University, West Virginia University, Parkersburg, WV, USA, and the University “Ss Cyril and Methodius,” Skopje, Macedonia. His research focuses on cognitive and developmental robotics, and interaction and emergent phenomena in agent societies. He is an affiliate of the Institute for Interactivist Studies at Lehigh University, and a member of the organizing committee of the biannual Interactivist Summer Institutes. He has authored over 200 publications, including ten books and edited volumes. He has chaired two symposia for the Association for Advancement of Artificial Intelligence. Trajkovski is the founding editor-in-chief of the International Journal of Agent Technologies and Systems. His work has been funded by NSF, the National Academies of the Sciences, and OWASP (Open Web Application Security Project). Trajkovski hold a BSc in applied informatics, MSc in mathematical and computer sciences, and PhD in computer sciences from the University “Ss Cyril and Methodius,” Skopje, Macedonia.