

Call for Papers
IEEE Transactions on Human-Machine Systems
Special Issue on “*Agent and System Transparency*”

As machine agents and other forms of automation become more autonomous and sophisticated, and human-machine systems more automated—from robots to autonomous driving and other intelligent agents embedded in complex networked systems—it has been increasingly clear to human-machine system researchers and practitioners that agent and system transparency is a critical issue for effective human-agent teaming. Transparency methods can provide the foundation for establishing shared awareness and shared intent between humans and intelligent machines. The significant progress in artificial intelligence in recent years is making it possible for machines to generate real-time explanations (e.g., regarding their behaviors, intents, reasoning process, and projected outcomes) to their human collaborators and to enable effective human-agent team task performance in complex dynamic environments. Additionally, more complex automation and agent-based decision making necessitates that constructs such as transparency be infused into systems to avoid disuse and or misuse of the systems by operators who do not understand them (e.g., in the case of opaque Machine Learning techniques like CNNs). However, research issues on agent and system transparency, as important as they are to the field of human-agent teaming, have not been systematically investigated and documented. The aim of this special issue is to showcase state-of-the-art agent and system transparency research as well as identify research gaps and potential ways forward. Particularly, empirical studies and theories on agent transparency will be important parts of the special issue.

Topics of interest include but are not limited to:

- Agent and system transparency - theoretical issues
- Transparency in human-agent or human-automation communications, system and user interface design, adaptive automation
- Transparency methods related to operator trust & social acceptance of adaptive agents
- Transparency implications for operator situation awareness & operator workload
- Transparency implications for ability, controllability, responsibility and autonomy of agents and sub-systems

Important Dates:

Manuscript submission:	May 15, 2018
Completion of first round of reviews:	August 31, 2018
Revised manuscript submission:	October 31, 2018
Notification of final decision:	January 15, 2019
Final manuscript submission:	February 28, 2019

Papers should be submitted through <http://mc.manuscriptcentral.com/thms>, with a cover letter that contains the statement: “This manuscript is being submitted to the Special Issue: Agent and System Transparency”. For detailed submission information, please refer to “Information for Authors” at <http://www.ieeesmc.org/publications/transactions-on-human-machine-systems/special-issues>.

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