

updated: 2017-09-09
(yyyy-mm-dd)

Publications of Dr. Tuncer Ören on:
Taxonomies, Ontologies, and Ontology-based Dictionaries
(Please see also: Modeling and Simulation Body of Knowledge – [M&S BoK](#))

Content:

Chronological list

Topical list

Ontologies
Ontology-based Dictionaries:
 Machine Understanding
 Multimodels
Taxonomies - Knowledge and Knowledge Processing (Including Knowledge Processing Tools)
Taxonomies - Intelligence, Software Agents
Taxonomies - Simulation:
 Knowledge and Knowledge Processing (Including Knowledge Processing Tools)
 Simulation
 Simulation Languages
 Simulation Models, Model Behavior, and Model Processing
 Multimodels
 Quality Assurance
Taxonomies - Understanding

Chronological list

1971:

Ören, T.I. (1971). A Basis for the Taxonomy of **Simulation Languages**. Proceedings of the 1971 Summer Computer Simulation Conference, Boston, MA, July 19-21, pp. 20-23.

1979:

Ören, T.I. (1979). Concepts for Advanced Computer-Assisted **Modelling**. In: Methodology in Systems Modelling and Simulation, B.P. Zeigler et al. (eds.). North-Holland, pp. 29-55. (Opening Paper in the Symposium on Modelling and Simulation Methodology, Rehovot, Israel, 1978 August 13-18).

1983:

Ören, T.I. (1983). **Simulation**: A Taxonomy. Technical Report TR-83-10, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)

Ören, T.I. (1983). **Simulation Models**: A Taxonomy. Technical Report TR-83-11, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)

1984:

Ören, T.I. (1984). **Quality Assurance** in Modelling and Simulation: A Taxonomy. In: Simulation and Model-Based Methodologies: An Integrative View, T.I. Ören, B.P. Zeigler, M.S. Elzas (eds.). Springer-Verlag, Heidelberg, Germany, pp. 477-517.

- Ören, T.I. (1984). **Symbolic Processing of Simulation Models**: A Taxonomy. Technical Report TR-84-01, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1984). **Model Behavior**: A Taxonomy of Types and Generation and Processing Techniques. Technical Report TR-84-02, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1984). **Simulation and Model-Oriented Languages**: A Taxonomy. Technical Report TR-84-03, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)

1987:

- Ören, T.I. (1987). **Quality Assurance Paradigms** for Artificial Intelligence in Modelling and Simulation. *Simulation*, 48:4 (April), 149-151.
- Ören, T.I. (1987). **Simulation**: Taxonomy. In: *Systems and Control Encyclopedia*, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4411-4414. (Chinese translation appeared in: *Acta Simulata Systematica Sinica*, 1989, 1, 60-63).
- Ören, T.I. (1987). **Simulation Models**: Taxonomy. In: *Systems and Control Encyclopedia*, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4381-4388. (Chinese translation appeared in: *Acta Simulata Systematica Sinica*, 1990, 1, 34-43).
- Ören, T.I. (1987). **Simulation Models Symbolic Processing**: Taxonomy. In: *Systems and Control Encyclopedia*, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4377-4381. (Chinese translation appeared in: *Acta Simulata Systematica Sinica*, 1990, 4, 59-62).
- Ören, T.I. (1987). **Model Behavior**: Type, Taxonomy, Generation and Processing Techniques. In: *Systems and Control Encyclopedia*, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 3030-3035. (Chinese translation appeared in: *Acta Simulata Systematica Sinica*, 1990, 2, 53-59).
- Ören, T.I. (1987). **Simulation and Model-Oriented Languages**: Taxonomy. In: *Systems and Control Encyclopedia*, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4303-4306. (Chinese translation appeared in: *Acta Simulata Systematica Sinica*, 1990, 3, 67-73).
- Ören, T.I. (1987). **Knowledge and Knowledge Processing Knowledge in Cognizant Systems**: A Taxonomy. In: *Proceedings of the 31st Annual Meeting of the International Society for General Systems Research*, Budapest, Hungary, 1987 June 1-5, pp. 868-873.

1990

- Ören, T.I. (1990). A Paradigm for Artificial Intelligence in Software Engineering. In: *Advances in Artificial Intelligence in Software Engineering - Vol. 1*, T.I. Ören (ed.), JAI Press, Greenwich, Connecticut, pp. 1-55. (**knowledge and knowledge processing**)

1993:

- Ören, T.I. (1993). **Simulation Languages**: Taxonomy. In: *Concise Encyclopedia of Software Engineering*, D. Morris and B. Tamm (eds.), Pergamon Press, Oxford, England, 306-312

2000:

- Ören, T.I. (2000 – Invited Opening Paper). **Understanding: A Taxonomy and Performance Factors**. In: D. Thiel (ed.) *Proc. of FOODSIM'2000*, June 26-27, 2000, Nantes, France. SCS, San Diego, CA, pp. 3-10.

2004:

- Ören, T.I. (2004). **Review** of the article: "Further towards a taxonomy of **agent-based simulation models** in environmental management" by Hare M. and Deadman P. *Mathematics and Computers in Simulation* 64(1): 25-40, 2004. *ACM Computing Reviews*, May 2004 issue.
- Yilmaz, L. and Ören, T.I. (2004). **Dynamic Model Updating in Simulation with Multimodels: A Taxonomy and a Generic Agent-Based Architecture**, *Proceedings of SCSC 2004 - Summer Computer Simulation Conference*, July 25-29, 2004, San Jose, CA., pp. 3-8. (**presentation**)

2005:

Ören, T.I. (2005). [Review](#) of the article: "A taxonomy of **computer-based simulations** and its mapping to **parallel and distributed systems simulation tools**" by Sulistio, O., Yeo, C., Buyya, C., Software--Practice & Experience 34(7): 653-673, 2004. ACM Computing Reviews, February 2005 issue.

2007:

Ören, T.I., Ghasem-Aghaee, N., and L. Yilmaz (2007). [An Ontology-Based Dictionary of Understanding as a Basis for Software Agents with Understanding Abilities](#). Proceedings of the Spring Simulation Multiconference ([SpringSim'07](#)). Norfolk, VA, March 25-29, 2007, pp. 19-27. (ISBN: 1-56555-313-6) ([presentation](#))

2011

Ören, T.I. and L. Yilmaz (2011). Semantic Agents with **Understanding** Abilities and Factors Affecting **Misunderstanding**. In: A. Elci, M.T. Traore, and M.A. Orgun (eds.) Semantic Agent Systems: Foundations and Applications, Springer-Verlag.

2016

Ören, T., L. Yilmaz, N. Ghasem-Aghaee, M. Kazemifard, and F. Noori (2016). **Machine Understanding** in Agent-Directed Simulation: State-of-the-art and Research Directions. (Keynote article of the 2016 Modeling and Simulation of Complexity in Intelligent, Adaptive and Autonomous Systems (MSCIAAS) Symposium of the SpringSim'16), Proceedings of the SpringSim'16, Umut Durak and Murat Günel, (eds.), April 3-6, 2016, Pasadena, CA, (SCS – The Society for Modeling and Simulation International), San Diego, CA, pp. 848-855.

Durak, U. and T. Ören (2016). Towards an **Ontology** for Simulation Systems Engineering. Proceedings of the SpringSim'16, Umut Durak and Murat Günel, (eds.), April 3-6, 2016, Pasadena, CA, (SCS – The Society for Modeling and Simulation International), San Diego, CA, pp. 167-170.

2017

Ghasem-Aghaee, N., T., Ören, and L. Yilmaz (2017) "Simulation, **Intelligence** and Agents: Exploring the Synergy." (Invited e-book chapter), Faria Nassiri Mofakham (ed.) Frontiers in Artificial Intelligence - Intelligent Computational Systems. Bentham Science Publishers, pp. 1-58.

Ören, T., L. Yilmaz (2017): "The Age of the **Connected World** of **Intelligent** Computational Entities: Reliability Issues including Ethics, Autonomy and Cooperation of Agents." (Invited ebook chapter), Faria Nassiri Mofakham (ed.) Frontiers in Artificial Intelligence - Intelligent Computational Systems. Bentham Science Publishers, pp. 184-213.

Ören, T., S. Mittal, U. Durak (2017 – In Preparation). Induced Emergence in Social System Engineering: **Multimodels** and Dynamic Couplings as Methodological Bases. In: S. Mittal, S. Diallo and A. Tolk (eds.) (2017 – In Preparation). Emergent Behavior in Complex Systems Engineering: A Modeling and Simulation Approach, Wiley.

Topical list

Ontologies

Durak, U. and T. Ören (2016). Towards an **Ontology** for Simulation Systems Engineering. Proceedings of the SpringSim'16, Umut Durak and Murat Günel, (eds.), April 3-6, 2016, Pasadena, CA, (SCS – The Society for Modeling and Simulation International), San Diego, CA, pp. 167-170.

Ontology-based Dictionaries: Machine Understanding

Ören, T.I., Ghasem-Aghaee, N., and L. Yilmaz (2007). [An Ontology-Based Dictionary of Understanding as a Basis for Software Agents with Understanding Abilities](#). Proceedings of the Spring Simulation Multiconference ([SpringSim'07](#)). Norfolk, VA, March 25-29, 2007, pp. 19-27. (ISBN: 1-56555-313-6) ([presentation](#))

Ontology-based Dictionaries: Multimodels

Ören, T., S. Mittal, U. Durak (2017 – In Preparation). Induced Emergence in Social System Engineering: **Multimodels** and Dynamic Couplings as Methodological Bases. In: S. Mittal, S. Diallo and A. Tolk (eds.) (2017 – In Preparation). Emergent Behavior in Complex Systems Engineering: A Modeling and Simulation Approach, Wiley.

Taxonomies: Knowledge and Knowledge Processing (Including Knowledge Processing Tools)

Ören, T.I. (1987). **Knowledge and Knowledge Processing Knowledge in Cognizant Systems: A Taxonomy**. In: Proceedings of the 31st Annual Meeting of the International Society for General Systems Research, Budapest, Hungary, 1987 June 1-5, pp. 868-873.

Ören, T.I. (1990). A Paradigm for Artificial Intelligence in Software Engineering. In: Advances in Artificial Intelligence in Software Engineering - Vol. 1, T.I. Ören (ed.), JAI Press, Greenwich, Connecticut, pp. 1-55. ([knowledge and knowledge processing](#))

Taxonomies: Intelligence, Software Agents

Ören, T.I. (2004). [Review](#) of the article: "Further towards a taxonomy of **agent-based simulation models** in environmental management" by Hare M. and Deadman P. Mathematics and Computers in Simulation 64(1): 25-40, 2004. ACM Computing Reviews, May 2004 issue.

Yilmaz, L. and Ören, T.I. (2004). [Dynamic Model Updating in Simulation with Multimodels: A Taxonomy and a Generic Agent-Based Architecture](#), Proceedings of [SCSC 2004](#) - Summer Computer Simulation Conference, July 25-29, 2004, San Jose, CA., pp. 3-8. ([presentation](#))

Ören, T.I. and L. Yilmaz (2011). Semantic Agents with **Understanding** Abilities and Factors Affecting **Misunderstanding**. In: A. Elci, M.T. Traore, and M.A. Orgun (eds.) Semantic Agent Systems: Foundations and Applications, Springer-Verlag.

Ghasem-Aghaee, N., T., Ören, and L. Yilmaz (2017) "Simulation, **Intelligence** and Agents: Exploring the Synergy." (Invited e-book chapter), Faria Nassiri Mofakham (ed.) Frontiers in Artificial Intelligence - Intelligent Computational Systems. Bentham Science Publishers, pp. 1-58.

Ören, T., L. Yilmaz (2017): "The Age of the **Connected World** of **Intelligent** Computational Entities: Reliability Issues including Ethics, Autonomy and Cooperation of Agents." (Invited ebook chapter), Faria Nassiri Mofakham (ed.) Frontiers in Artificial Intelligence - Intelligent Computational Systems. Bentham Science Publishers, pp. 184-213.

Taxonomies: Simulation

Ören, T.I. (1983). **Simulation: A Taxonomy**. Technical Report TR-83-10, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)

- Ören, T.I. (1987). **Simulation**: Taxonomy. In: Systems and Control Encyclopedia, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4411-4414. (Chinese translation appeared in: Acta Simulata Systematica Sinica, 1989, 1, 60-63).
- Ören, T.I. (2005). [Review](#) of the article: "A taxonomy of **computer-based simulations** and its mapping to **parallel and distributed systems simulation tools**" by Sulistio, O., Yeo, C., Buyya, C., Software--Practice & Experience 34(7): 653-673, 2004. ACM Computing Reviews, February 2005 issue.

Taxonomies: Simulation Languages

- Ören, T.I. (1971). A Basis for the Taxonomy of **Simulation Languages**. Proceedings of the 1971 Summer Computer Simulation Conference, Boston, MA, July 19-21, pp. 20-23.
- Ören, T.I. (1984). **Simulation and Model-Oriented Languages**: A Taxonomy. Technical Report TR-84-03, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1987). **Simulation and Model-Oriented Languages**: Taxonomy. In: Systems and Control Encyclopedia, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4303-4306. (Chinese translation appeared in: Acta Simulata Systematica Sinica, 1990, 3, 67-73).
- Ören, T.I. (1993). **Simulation Languages**: Taxonomy. In: Concise Encyclopedia of Software Engineering, D. Morris and B. Tamm (eds.), Pergamon Press, Oxford, England, 306-312

Taxonomies: Simulation Models, Model Behavior, and Model Processing

- Ören, T.I. (1979). Concepts for Advanced Computer-Assisted **Modelling**. In: Methodology in Systems Modelling and Simulation, B.P. Zeigler et al. (eds.). North-Holland, pp. 29-55. (Opening Paper in the Symposium on Modelling and Simulation Methodology, Rehovot, Israel, 1978 August 13-18).
- Ören, T.I. (1983). **Simulation Models**: A Taxonomy. Technical Report TR-83-11, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1984). **Symbolic Processing of Simulation Models**: A Taxonomy. Technical Report TR-84-01, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1984). **Model Behavior**: A Taxonomy of Types and Generation and Processing Techniques. Technical Report TR-84-02, Computer Science Department, University of Ottawa, Ottawa, Ontario. (preprint)
- Ören, T.I. (1987). **Simulation Models**: Taxonomy. In: Systems and Control Encyclopedia, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4381-4388. (Chinese translation appeared in: Acta Simulata Systematica Sinica, 1990, 1, 34-43).
- Ören, T.I. (1987). **Simulation Models Symbolic Processing**: Taxonomy. In: Systems and Control Encyclopedia, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 4377-4381. (Chinese translation appeared in: Acta Simulata Systematica Sinica, 1990, 4, 59-62).
- Ören, T.I. (1987). **Model Behavior**: Type, Taxonomy, Generation and Processing Techniques. In: Systems and Control Encyclopedia, M.G. Singh (ed.), Pergamon Press, Oxford, England, pp. 3030-3035. (Chinese translation appeared in: Acta Simulata Systematica Sinica, 1990, 2, 53-59).
- Ören, T.I. (2004). [Review](#) of the article: "Further towards a taxonomy of **agent-based simulation models** in environmental management" by Hare M. and Deadman P. Mathematics and Computers in Simulation 64(1): 25-40, 2004. ACM Computing Reviews, May 2004 issue.

Taxonomies: Simulation Multimodels

- Yilmaz, L. and Ören, T.I. (2004). [Dynamic Model Updating in Simulation with Multimodels: A Taxonomy and a Generic Agent-Based Architecture](#), Proceedings of **SCSC 2004** - Summer Computer Simulation Conference, July 25-29, 2004, San Jose, CA., pp. 3-8. ([presentation](#))
- Ören, T., S. Mittal, U. Durak (2017 – In Preparation). Induced Emergence in Social System Engineering: **Multimodels** and Dynamic Couplings as Methodological Bases. In: S. Mittal, S. Diallo and A.

Tolk (eds.) (2017 – In Preparation). Emergent Behavior in Complex Systems Engineering: A Modeling and Simulation Approach, Wiley.

Taxonomies: Simulation Quality Assurance

Ören, T.I. (1984). **Quality Assurance** in Modelling and Simulation: A Taxonomy. In: Simulation and Model-Based Methodologies: An Integrative View, T.I. Ören, B.P. Zeigler, M.S. Elzas (eds.). Springer-Verlag, Heidelberg, Germany, pp. 477-517.

Ören, T.I. (1987). **Quality Assurance Paradigms** for Artificial Intelligence in Modelling and Simulation. Simulation, 48:4 (April), 149-151.

Taxonomies: Understanding

Ören, T.I. (2000 – Invited Opening Paper). **Understanding: A Taxonomy and Performance Factors**. In: D. Thiel (ed.) Proc. of FOODSIM'2000, June 26-27, 2000, Nantes, France. SCS, San Diego, CA, pp. 3-10.

Ören, T.I. and L. Yilmaz (2011). Semantic Agents with **Understanding** Abilities and Factors Affecting **Misunderstanding**. In: A. Elci, M.T. Traore, and M.A. Orgun (eds.) Semantic Agent Systems: Foundations and Applications, Springer-Verlag.

Ören, T., L. Yilmaz, N. Ghasem-Aghaee, M. Kazemifard, and F. Noori (2016). **Machine Understanding** in Agent-Directed Simulation: State-of-the-art and Research Directions. (Keynote article of the 2016 Modeling and Simulation of Complexity in Intelligent, Adaptive and Autonomous Systems (MSCIAAS) Symposium of the SpringSim'16), Proceedings of the SpringSim'16, Umut Durak and Murat Günel, (eds.), April 3-6, 2016, Pasadena, CA, (SCS – The Society for Modeling and Simulation International), San Diego, CA, pp. 848-855.