

## ▼ Introduction to Agile Software Development: Lean, Distributed, and Scalable Minitrack

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Agile software development processes have been influenced by best practices in Japanese industry, particularly by lean product development principles [1] implemented at companies like Honda [2] and Toyota [3], and knowledge management strategies developed by Takeuchi and Nonaka [4], now at the Hitotsubashi Business School in Japan, and Peter Senge [5] at MIT. This minitrack will focus on advancing the state of the art or presenting innovative ideas related to agile methods, individual practices and tools. Accepted papers will potentially enrich the body of knowledge and influence the framework of thought in the field by investigating Agile methods in a rigorous fashion.

The track is open to research papers on multiple aspects of agile methods, particularly those that bring best practices in knowledge management and lean development to scalable, distributed, and outsourced Scrum, eXtreme Programming (XP), and other agile practices [6]:

- Agile methods and processes
- Business and social facets of agile software development
- Technical facets of agile software engineering
- Agile usability
- Tools for agile developers and teams
- Empirical studies of agile methods

Topics include:

- Research on existing or new methodologies and approaches: informal modeling techniques and practices, adapting/trimming existing methods, and new product/project planning techniques [7].
- Research on existing or new techniques or practices: pairing, war-rooms, test-first design, paper-based prototyping, early acceptance test driven development, exploratory testing, refactoring, or others.
- Research on special topics or tools: configuration and resource management, testing, project steering, user involvement, design for agility, virtual teams or others.

- Research on integrating ideas from other fields, e.g. interaction design, requirements engineering, cognitive science, organizational psychology, usability testing, software security, into agile processes.
- Research studies of development teams using ethnographic or social research techniques.
- Research on agile software engineering economics.
- Quantitative and qualitative studies of agile methods, practices, and tools.
- Research on agile compliance and cost benefits within CMMI, ISO 9000, and FDA certified development projects.

Papers are particularly relevant when agile process implementations are shown to produce quantitative and qualitative benefits on distributed, outsourced, large, or standards compliant software development projects which have been previously been viewed (erroneously) as unsuited for agile development.

- [1] M. Poppendieck and T. Poppendieck, *Lean Software Development: An Implementation Guide*: Addison-Wesley, 2006.
- [2] W. D. Holford and M. Ebrahimi, "The case of Honda: A dialectical yet coherent firm," in *40th Annual Hawaii International Conference on System Sciences (HICSS-40)*, Big Island, Hawaii, 2007.
- [3] J. K. Liker, *The Toyota way : 14 management principles from the world's greatest manufacturer*. New York: McGraw-Hill, 2004.
- [4] H. Takeuchi and I. Nonaka, *Hitotsubashi on Knowledge Management*. Singapore: John Wiley & Sons (Asia), 2004.
- [5] P. M. Senge, *The Fifth Discipline: the Art and Practice of the Learning Organization*. New York: Currency, 1990.
- [6] J. Sutherland, "Future of Scrum: Parallel Pipelining of Sprints in Complex Projects," in *AGILE 2005 Conference*, Denver, CO, 2005.
- [7] H. Smits, "The Impact of Scaling on Planning Activities in an Agile Software Development Context," in *40th Annual Hawaii International Conference on System Sciences (HICSS-40)*, Big Island, Hawaii, 2007.