We are pleased to announce a Call for Papers for a special issue of Artificial Intelligence in Medicine (AIIM) on key issues of the present state, the history, the ongoing development, clinical applications and future prospects of Arden Syntax. Arden Syntax is a medical knowledge representation and processing schema for the development of clinical decision support (CDS) systems. It originated in 1989 at a gathering of medical informaticists from the USA, the Netherlands, and Sweden bringing together stakeholders from academia, industry and government at the Arden Homestead in Orange County, New York, sponsored by Columbia University. In 2014, we celebrate its 25th anniversary.

The intention was to create a formalism to write computer-based clinical reminders, diagnostic and therapeutic recommendations, and crucial alerts in a clear and human readable way and—one of the prime objectives—make them shareable with others.

The early versions of Arden Syntax were updated, extended and then adopted by standards organizations. The American Society for Testing and Materials (ASTM) first approved the Arden Syntax as standard E-1460-92 in 1992. Ownership was transferred to Health Level Seven International (HL7) and certification obtained from the American National Standards Institute (ANSI) in 1999, when version 2.0 of the standard was approved.

The latest ANSI-certified release is Arden Syntax version 2.9, which was approved in March 2013. This version consists of a new Arden Syntax, completely extended by fuzzy methodologies, now known as Fuzzy Arden Syntax. Further, HL7’s Arden Syntax Work Group prepared Arden Syntax version 2.10 containing ArdenML, a complete XML scheme of the Arden Syntax. Thus, Arden Syntax is now compatible
with all other HL7 standards based on XML (HL7 version 3, vMR, and others). However, HL7’s Arden Syntax Work Group is working on further improvements and extensions of this representation, also in association with HL7’s Clinical Decision Support Work Group.

We welcome contributions on all aspects of Arden Syntax such as (but not limited to):

- History and present state of Arden Syntax
- Fuzzy Arden Syntax
- ArdenML
- Technical integration and semantic interoperability
- Integration standards
- Knowledge maintenance and life-cycle
- Tools for knowledge acquisition, processing, and management
- Cross-compilation and mapping from and to Arden Syntax
- Comparison to other knowledge representation languages and rule engines
- Formal concepts in Arden Syntax
  - scores and calculations
  - rules, tables, and decision trees
  - protocols and guidelines
  - automata and control systems
  - linguistic and propositional uncertainty
- Clinical systems with Arden Syntax
  - clinical decision support
  - medical expert systems
  - adverse event monitoring
  - telemedicine systems
  - clinical content systems
  - smartphone apps
  - population-based decision support, including patient study recruitment
  - administrative decision support

AIIM is also particularly interested in publishing methodological reviews on subjects relevant to the above special issue topics. It also welcomes position papers on the above-listed issues.

Full manuscripts are due no later than 15 December 2014. Before preparing a full manuscript, authors should submit an extended abstract on your intended submission to ensure that it aligns thematically with the special edition of the journal. Publication of this special issue is scheduled for 2015.

Instructions for authors are available here.

Correspondence and any questions regarding this special issue should be directed to:
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We are looking forward to your valuable submission.

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Vienna, Salt Lake City, Los Angeles
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