The availability of digital data affords unprecedented possibilities for analysis of different aspects of human life. These possibilities have mobilized researchers, practitioners, institutional leaders, policy makers, and technology vendors to look at the ways these data can be used to understand and enhance learning and teaching. This intensive interest has given rise to the formation of the new field of learning analytics. According to the Society for Learning Analytics Research (SoLAR: http://solaresearch.org/), learning analytics is defined as “the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs.” The field of learning analytics builds on and links to numerous other disciplines including learning sciences, social network analysis, (educational) data mining, language technologies, machine learning, information visualisation, computational thinking and sense-making, (educational, social, cognitive, organisational) psychology, and educational theory.

Early results in the field of learning analytics offer much promise in identification of learners at risk of failing or dropping out of a course, understanding of information flow in social interactions, or identification of different cognitive, metacognitive and affective states in discourse and other behaviour traces. These results have attracted many institutions to invest in systemic implementation of learning analytics, development of relevant institutional policies, and creation of partnerships with organizations specializing in learning analytics. Data about user interactions with learning technologies are the main resources used in learning analytics. Given the early days in the development of the field of learning analytics, research is necessary to provide more effective methods in order to understand the factors that influence learning as well as to optimize learning outcomes and processes across cognitive, metacognitive, social, and affective dimensions. Moreover, there is a need for theoretically sound and empirically validated frameworks for:

- presentation of results of learning analytics to a variety of stakeholders, including decision makers, administrators, instructors and students
- development of novel learning technologies offering effective ways for personalization support and continuous improvement
- systemic institution-wide deployment and implementation of learning analytics, and
- ethical and safe use of data and learning analytics that protects user privacy while maximizing wellbeing.
This special issue of *IEEE Transactions on Learning Technologies* calls for papers that address the above gaps by reporting on a combination of theoretical/conceptual and empirically validated findings. The accepted papers will contribute to the existing body of research knowledge in the field of learning analytics and will offer a sound empirical base that can motivate and inform practice. The submissions that build bridges of learning analytics with other related disciplines to enhance the impact are especially welcome.

**Important Dates**

- Full manuscripts due: February 1, 2016
- Completion of first review round: June 1, 2016
- Revised manuscripts due: July 31, 2016
- Final decision notification: October 31, 2016
- Publication materials due: November 30, 2016
- Publication of special issue: early 2017 (possibly the Jan-Mar 2017 issue, i.e., vol. 10, no. 1)

**Submission and Review Process**

Full manuscripts should be prepared in accordance with the *IEEE Transactions on Learning Technologies* guidelines ([http://www.computer.org/portal/web/tlt/author](http://www.computer.org/portal/web/tlt/author)) and submitted via the journal's ScholarOne portal ([https://mc.manuscriptcentral.com/tlt-cs](https://mc.manuscriptcentral.com/tlt-cs)), making sure to select the relevant special issue name. *Manuscripts should not be published or currently submitted for publication elsewhere*. Only full papers intended for review, not abstracts, should be submitted via the ScholarOne portal. Each full manuscript will be subjected to peer review.

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