



# CREATE for STEM Institute

welcomes

## Dr. Janice Gobert

Professor of Educational Psychology  
Rutgers Graduate School of Education

**NOVEMBER 16, 2022, 12:00-1:00PM, 115 ERICKSON HALL**

Zoom registration will be shared soon

CREATE4STEM.MSU.EDU

**An AI-based platform for real time assessment, scaffolding,  
and alerting on students' science practices.**

**Abstract:** The main goal of this presentation is to describe how rigorous assessment design frameworks and new computational techniques can be used to design and develop assessments in order to realize the reform envisioned in frameworks for 21st century skills including the Next Generation Science Standards (2013). I will describe Inq-ITS (Inquiry-Intelligent Tutoring) and its accompanying teacher dashboard Inq-Blotter, which are technology-based systems designed expressly to assess and support students' competencies at science practices and support teachers' pedagogical practice related to these practices. I will also describe how we used key computational techniques from knowledge-engineering, educational data mining, and natural language processing in order to analyze data from students' log files and open-responses in this environment. These algorithms are used to automatically score students' inquiry skills and scaffold them via our digital agent Rex on the practices in real time as they engage in inquiry, as well as provide teachers with fine-grained formative assessment data, alerts, and TIPS (Teacher Inquiry Practice Supports) to support real time instruction of the science practices.



**Bio:** Janice Gobert, Ph.D. (Cognitive Science, University of Toronto). Gobert is a Learning Scientist with 25+ years' experience. She is a Professor of Educational Psychology and Learning Sciences at Rutgers Graduate School of Education, and Faculty in the Maker Space Certificate for teachers. She has successfully executed many STEM projects (~25 M to date). She has extensive expertise in model-based learning and assessment, the design of technology-based materials, and the analyses of quantitative data (log data, performance and classical assessment data) and qualitative data (think aloud data, students' explanations, models/drawings). Janice is the Founding CEO of Apprendis, LLC, which is an ed tech startup productizing Inq-ITS and Inq-Blotter (inqits.com). She is the lead visionary on Inq-ITS.