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## REESE Principal Investigators Meetings

### 2010 REESE PI MEETING

The 2010 REESE PI Meeting is scheduled for Thursday, March 11- Friday, March 12 at the [Ritz-Carlton, Pentagon City](#), just two stops from Reagan National Airport on the [Metro](#). ARC has worked closely with NSF Program Officers and representatives from the REESE community to organize this year's PI meeting:

- [Meeting agenda \(PDF\)](#)

A print copy of the 2010 REESE briefing book is being included in every meeting packet and includes an agenda, maps, speaker bios, and a list of participants. A continuously updated, online version can be found here:

- [Online Briefing Book](#)

Poster sessions will be held both days of the meeting. The registration form asks that you select a category for your poster so that we can group them in the Poster Hall:

- [Guidelines for posters](#)

We also will continue adding to the online Poster Hall, so we ask that you send a Powerpoint or PDF of your poster to [beckner-amalia@norc.org](mailto:beckner-amalia@norc.org):

- [Virtual poster hall](#)

Please contact Jen Hanis at [hanis-jen@norc.org](mailto:hanis-jen@norc.org) or Kevin Brown at [brown-kevin@norc.org](mailto:brown-kevin@norc.org) if you have questions. We look forward to seeing you in March!

- NSF has just issued the interdisciplinary [FIRE solicitation](#) (deadline May 20), soon to be rolled into REESE
- Funding available for work on the [use of research evidence](#) in policy and practice
- Foundation seeks [international partners](#) for "Science and the General Public" research program
- View an [NSF informational webcast](#) on the revised solicitation for the REESE Program
- Event at NSF offers the [latest from REESE projects](#) on STEM learning and teaching





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## 2010 Virtual Poster Hall

Welcome to the 2010 Virtual Poster Hall! You can browse within a category of posters by selecting from the list below. Click on the poster thumbnail to see the poster and click on the poster itself to zoom in.

- [PreK-Elementary, Mathematics](#)
- [PreK-Elementary, Science/Engineering](#)
- [Middle-Secondary, Mathematics](#)
- [Middle-Secondary, Science/Engineering](#)
- [Higher Education, Mathematics](#)
- [Higher Education, Science/Engineering](#)
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# ARC

## CENTER FOR ADVANCING RESEARCH

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### Cyberlearning/Technology



[Debbie Reese](#)



[Noboru Matsuda](#)



[Carol Sansone](#)



Debbie Denise Reese, PI\*  
Co-PIs: Charles A. Wood\*, Ben Hitt\*, Beverly Carter\*\*  
\*Wheeling Jesuit University  
\*\*Jacksonville University

## ABSTRACT

The CyGaMEs approach to instructional game design and assessment aligns the game system, gameplay, and game goal with a targeted learning domain (Reese, 2007, 2008). The CyGaMEs timed report tool collects data on player progress toward the game goal. CyGaMEs uses timed report for formative assessment. Analysis of timed reports can be used for informed revision by revealing an individual player's ability to formatively evaluate

## ASSESSMENT

### Quantify Player's Knowledge Growth (Reese & Tabachnick, 2010)

**Criterion.** Cumulative timed report for a knowledgeable player progresses toward the game goal.

*Selene* measures learning as quantified behavior. Different people have learning moments at different times. CyGaMEs identified a moment of learning for the underlying science of *accelerationLM*, and used gesture data to identify the time at which each of 22 exemplar players achieved it. The timed report successfully ascertained when people had and had not learned *accelerationLM* (Reese & Tabachnick, 2010). The learning moment, in and of itself, explained 95 percent of the variance in player's timed report progress.

An algorithmic developed to model the process of hand identification of *accelerationLM* replicated findings. Future development work should generate a rule and algorithm that will support the *Selene* environment's backend reporting system to automate discovery, measurement, and reporting of the *accelerationLM* and, eventually, other moments of learning.

Timed report can be a strong and accurate measure of learning when games are designed according to the CyGaMEs approach.

Velocity

Timed Report