

NSTA Strand: *Immersive Environments for Science Education*



Panel Discussion:
**Immersive Environments for Science
Education: Hyper-Learning or
Over-Hyped Learning**

10:30-11:30 am, PACC 107B

ISTE Digital-Age Teaching & Learning: Innovative Learning Technologies

NSTA Sponsored Strand Sessions

- 12:15-1:15 PM: Dr. Greg Jones
Games and Virtual Environments: What are they and how can I integrate them in my classroom
- 1:00-3:00 PM: Dr. Al Byers and Mr. Flavio Mendez
**The NSTA Learning Center:
Research-based e-Professional Development**
- 2:00-3:00 PM: Dr. Lisa Dawley
Quest-Based Inquiry Across Immersive Learning Environments: Access, Choice and Powerful New Modes of Learning
- 3:45-4:45 PM: Dr. Chris Dede
Immersive Virtual Ecosystems for Learning and Assessment

Sponsored Strand Researchers

- **Dr. Lisa Dawley**

Professor and Chair of the Department of Educational Technology at Boise State University



- **Dr. Chris Dede**

Timothy E. Wirth Professor in Learning Technologies at Harvard's Graduate School of Education



- **Dr. Greg Jones**

Associate Professor of Learning Technologies at the University of North Texas





Panel Discussion

Discussion Topics

- Video games are incredibly engaging. However, the content is often based on fantasy, utilizing this wonderful engine for learning that has little real world value. What are examples drawn from research that show promise for deep conceptual student learning in science?
- What are some promising strategies with assessment in these immersive environments and how might they address the accountability environment of NCLB, where there's little room for creativity?
- How can we build authentic real world learning challenges using immersive online environments that compete with multi-million dollar video-game fidelity and marketing campaigns to still keep students engaged?
- How can these online learning environments be effectively blended with more traditional inquiry classroom investigations where students are manipulating tangible apparatus?
- What type of support is needed for teachers to make integrate virtual environments into instruction and what level of access must district administrators provide to ensure an equitable experience for all participants both inside and outside of class?

Closing Comments

NSTA Sponsored Strand Sessions

12:15-1:15 PM

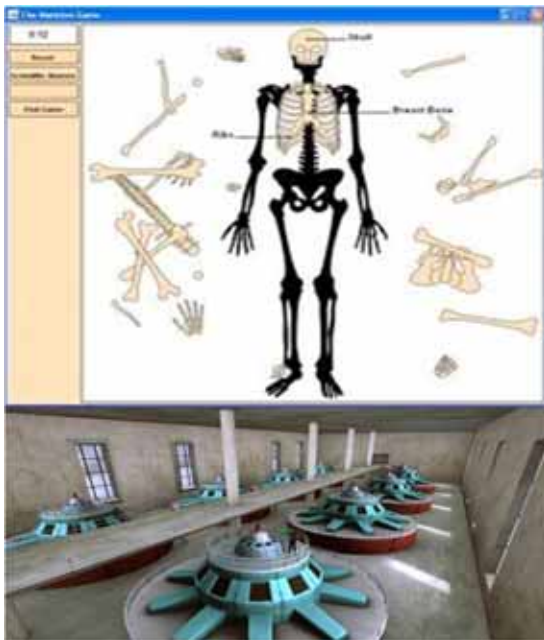
***Games and Virtual Environments:
What are they and how can I
integrate them in my classroom***

Dr. Greg Jones

Associate Professor of Learning Technologies at the
University of North Texas

Games, Simulations and Virtual Environments

A journey into the understanding and definitions of games, simulations, and virtual environments being used in the classroom as educational technology.



Games, Simulations and Virtual Environments

The session will discuss

- What are Games

- What are Simulations

- What are Virtual Worlds

- Using them as Educational

Technology

- Issues and Trends in the Classroom

NSTA Sponsored Strand Sessions

2:00-3:00 PM

Quest-Based Inquiry Across Immersive Learning Environments: Access, Choice and Powerful New Modes of Learning

Dr. Lisa Dawley

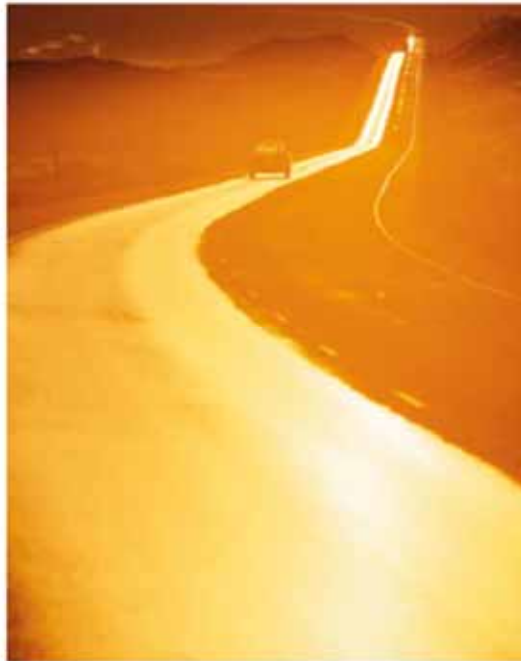
Professor and Chair of the Department of Educational
Technology at Boise State University

Educational Innovation

- Innovative breakthroughs require years of intensive preparation
- **Enthusiastic** immersion in a domain results in deep, rich knowledge
- New ideas spur on more new ideas, networks generate cycles of innovation
- Give freedom to innovate Geoff Colvin



Serendipity is a major component of scientific discoveries and inventions

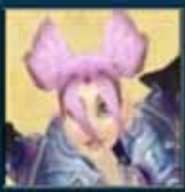


- Penicillin
- Silly putty
- Mauve
- Teflon
- Scotchguard
- Cellophane
- Chocolate chip cookies
- Christopher Columbus
- Grounded theory (patterns)
- Used in business intelligence








Quest-Based Learning

3D GAME LAB

 **Shallow** No Rank Yet XP 580

Group 0 | 0
Rank 0 | 0

Biology ▼ In Progress 0 Available 7 Completed 0

Name	XP	Avg Time	Rating	Category	Due Date
 Build a Cell in Second Life	25	-- mins	No Rating	cell biology	No end date
 Cell Identification - Play Miamiopia!	25	-- mins	No Rating	cell biology	No end date
 Diffusion	50	-- mins	No Rating	Cell Biology	No end date
 Intro to the Microscope	50	-- mins	No Rating	cell biology	No end date
 Mendel's Genetics	35	-- mins	No Rating	Genetics	No end date

QUESTS 0
REWARDS 0

DASHBOARD

QUEST BUILDER
GROUP MANAGER
QUEST APPROVER
AWARD BUILDER

NSTA Sponsored Strand Sessions

3:45-4:45 PM

Immersive Virtual Ecosystems for Learning and Assessment

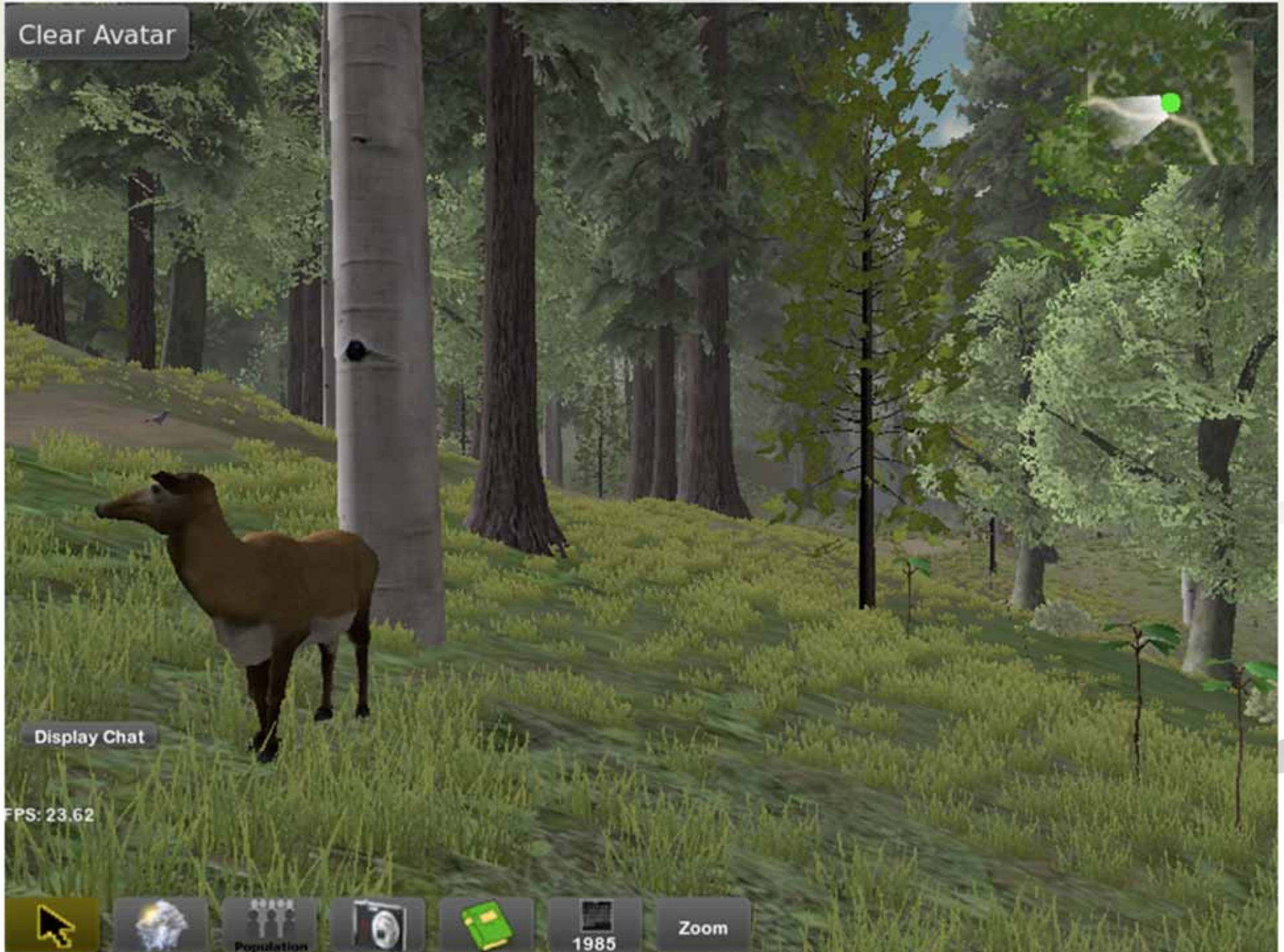
Dr. Chris Dede

Timothy E. Wirth Professor in Learning Technologies at
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View World

View Data

Clear Avatar



Display Chat

FPS: 23.62

Population

1985

Zoom

TI Nspire







NSTA Poster Session

1:00-3:00 PM

The NSTA Learning Center: Research-based e-Professional Development

PACC Broad St Atrium, Table 30

Dr. Al Byers and Mr. Flavio Mendez

National Science Teachers Association
Arlington, Virginia

Over 2,000 free lessons plans, web seminars, podcasts, and sim-based learning objects.

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NSTA in Philly: June 26-29

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