



Connecting Society with Science  
The Greater Potential of  
Giant Screen Experiences



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# Using Telepresence to Communicate Science in Giant Screen Cinema

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<http://ispr.info>

# What is Telepresence?

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The evolution of media technologies - drawings, print, radio, film, television, computers, video games, giant screen cinema, simulator rides, virtual reality, virtual worlds, AI agents, robots, androids...

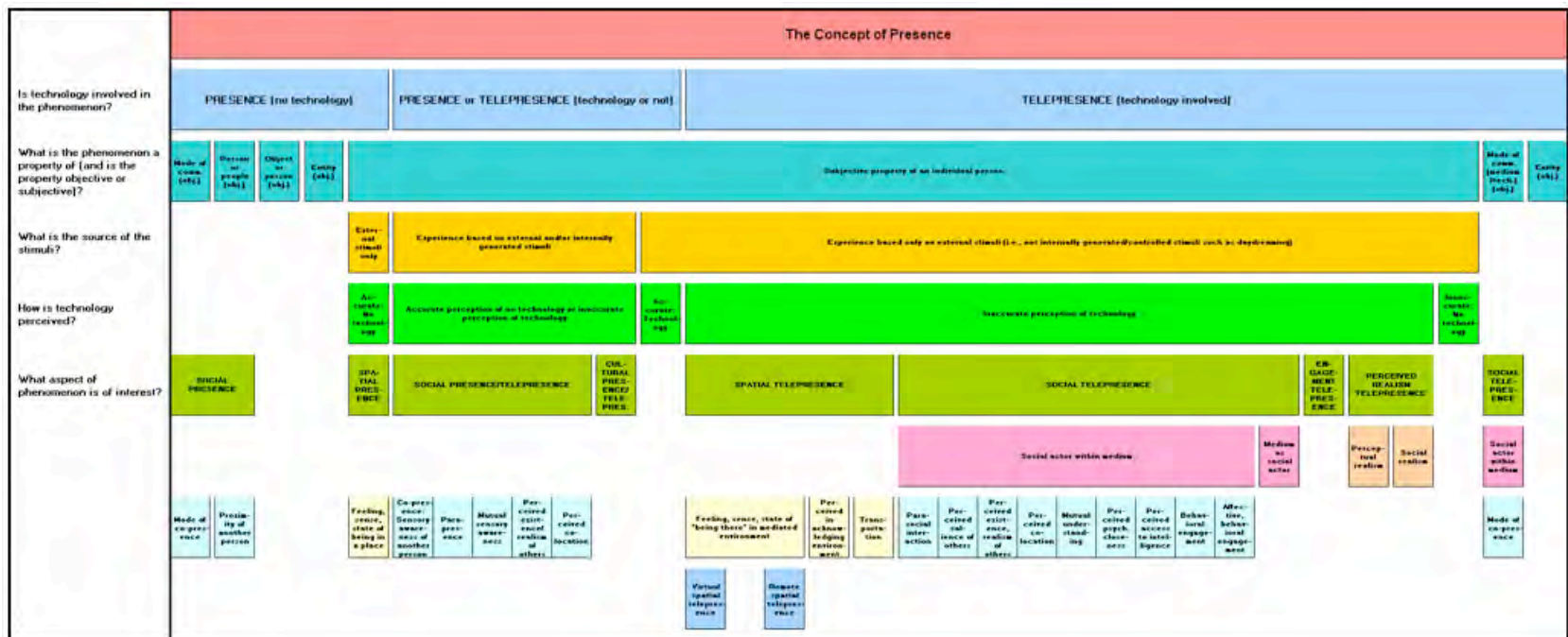
# What is Telepresence?

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... has produced mediated experiences that seem increasingly natural, intuitive, comfortable, easy, automatic, and 'real' because the technology seems increasingly less like technology.

# What is (Tele)presence?

- Many definitions and terms



Lombard & Jones (in press). Defining presence. In *Immersed in Media I: Telepresence Theory, Measurement and Technology*. Lawrence Erlbaum.

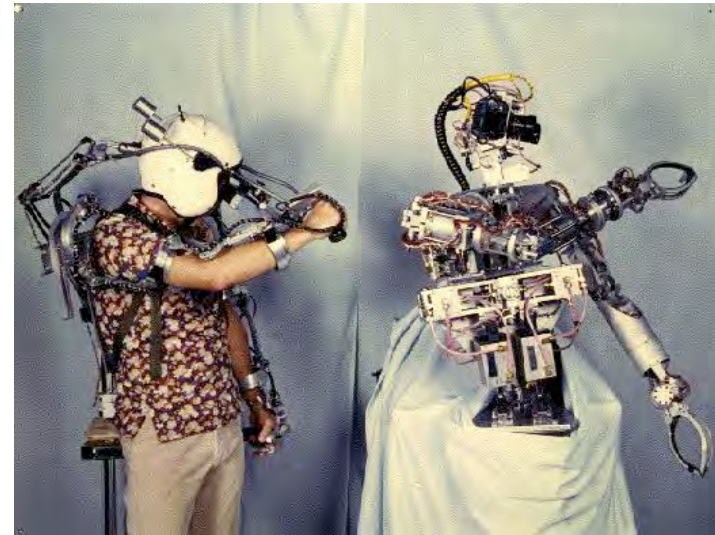
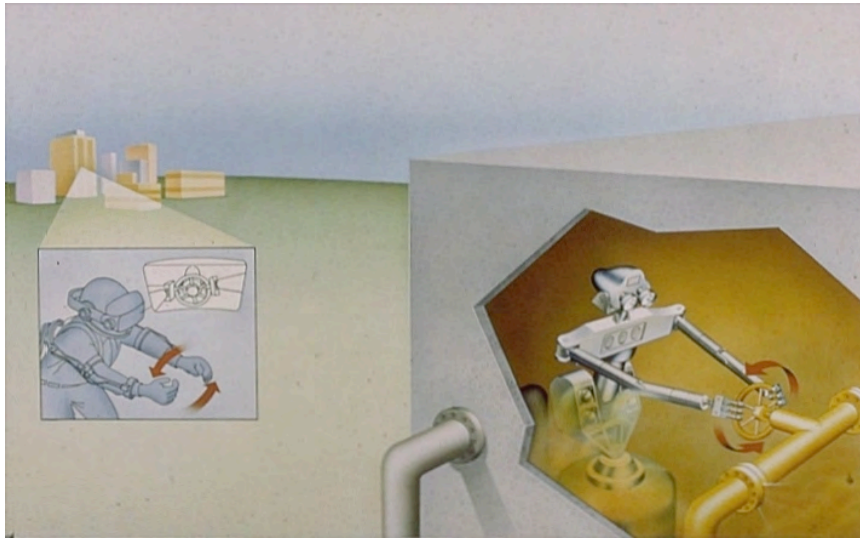
# What is Telepresence?

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- ISPR (2000): “Presence (a shortened version of the term ‘telepresence’) is a psychological state or subjective perception in which even though part or all of an individual's current experience is generated by and/or filtered through human-made technology, part or all of the individual's perception fails to accurately acknowledge the role of the technology in the experience.”

# Examples of Telepresence

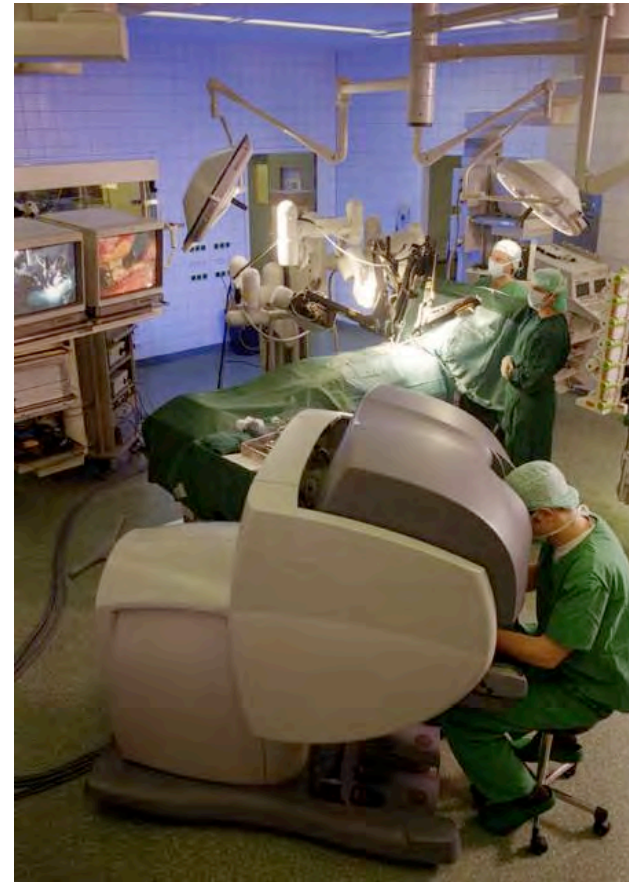
- Teleoperation



# Examples of Telepresence

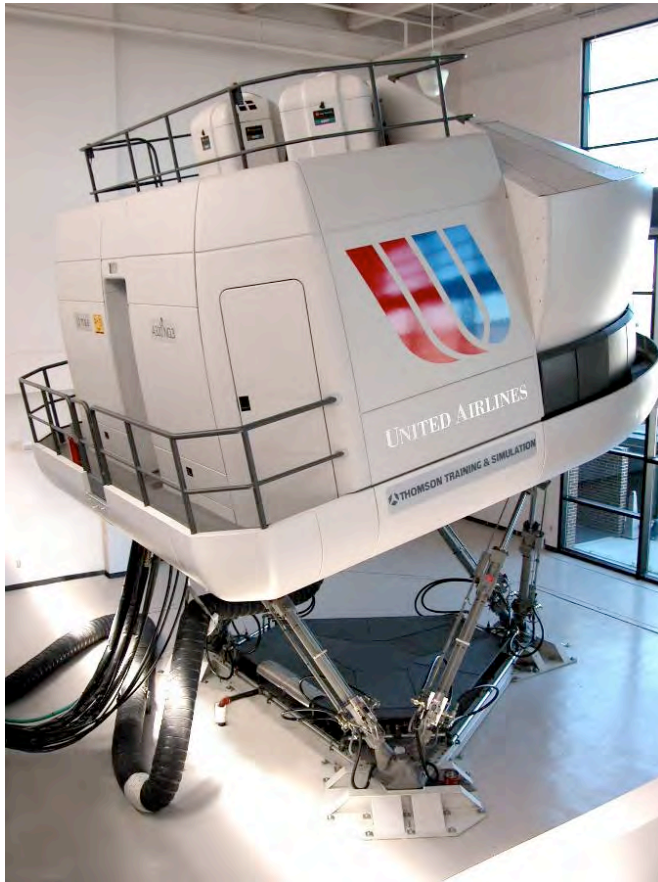
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- Telesurgery



# Examples of Telepresence

- Training simulators



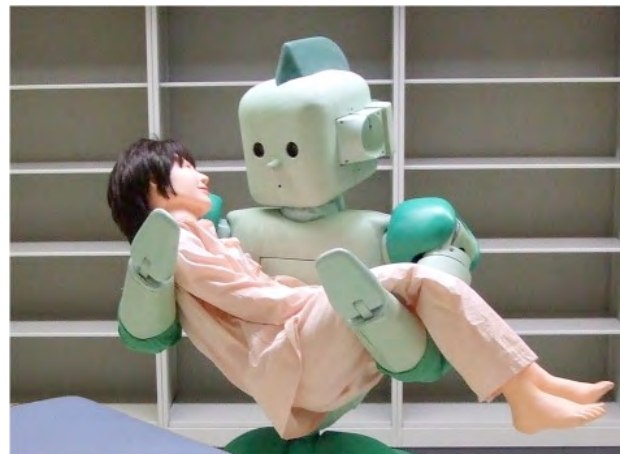
# Examples of Telepresence

- Military



# Examples of Telepresence

- Robots and Androids



# Future of Telepresence?

- Holodeck, Data

**HOLODECK PROGRAMMING**

**SELECT SIMULATION**

- 02-441 • SCUBA DIVING - HANAUMA BAY - EARTH
- 02-500 • KLINGON RITE OF ASCENSION CHAMBER
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- 03-900 • SHI-KAHR DESERT SURVIVAL - VULCAN
- 03-831 • CALISTHETICS - LT. WORF
- 04-211 • BRIDGE OFFICERS EXAMINATION
- 04-577 • POKER WITH GREAT SCIENTISTS
- 04-672 • CHAMPS ELYSEES - PARIS EARTH
- 05-100 • EINSTEIN, A CONVERSATION WITH

PROGRAM SELECT

LIBRARY

PREV NEXT

# Examples of Telepresence

- Advanced video conferencing



# Examples of Telepresence

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- Distance education: Science and exploration



# Examples of Telepresence

- Virtual sports and games



# Examples of Telepresence

- Virtual worlds and MMORPGs



# Examples of Telepresence

- TV

**A Stunning Breakthrough in Plasma Technology.**

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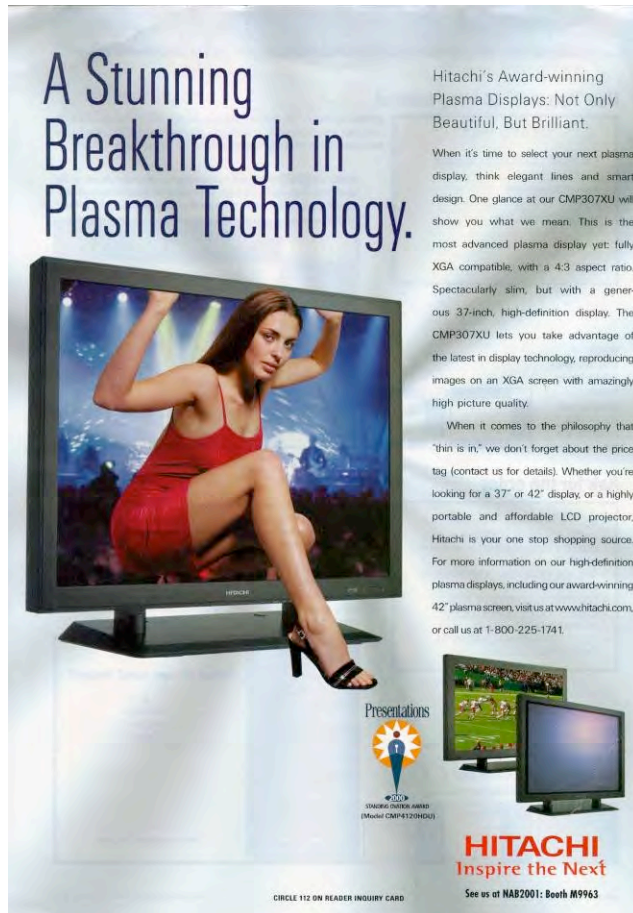
When it's time to select your next plasma display, think elegant lines and smart design. One glance at our CMP307XU will show you what we mean. This is the most advanced plasma display yet: fully XGA compatible, with a 4:3 aspect ratio. Spectacularly slim, but with a generous 37-inch, high-definition display. The CMP307XU lets you take advantage of the latest in display technology, reproducing images on an XGA screen with amazingly high picture quality.

When it comes to the philosophy that "thin is in," we don't forget about the price tag (contact us for details). Whether you're looking for a 37" or 42" display, or a highly portable and affordable LCD projector, Hitachi is your one stop shopping source. For more information on our high-definition plasma displays, including our award-winning 42" plasma screen, visit us at [www.hitachi.com](http://www.hitachi.com), or call us at 1-800-225-1741.

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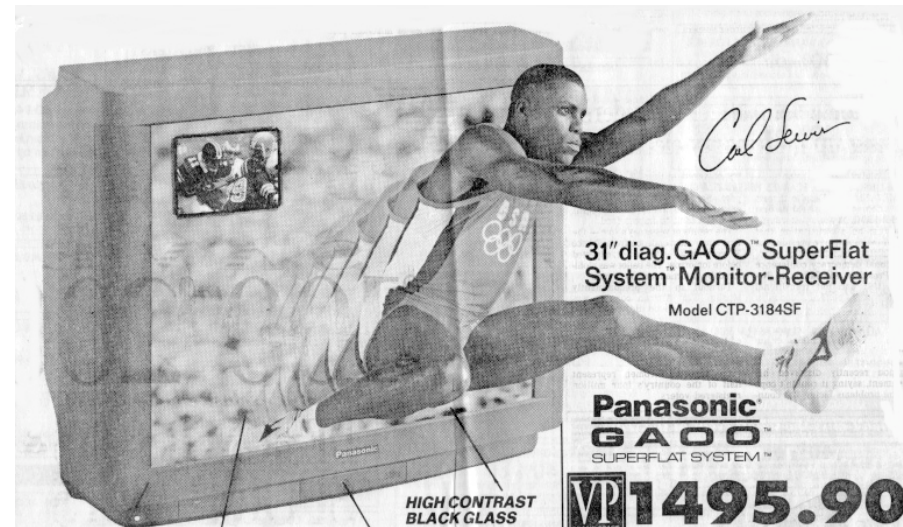
*Cal Lewis*

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Model CTP-3184SF

**Panasonic GAOO™ SUPERFLAT SYSTEM™**

**VP 1495.90**

HIGH CONTRAST BLACK GLASS



# Examples of Telepresence

- HDTV



# Examples of Telepresence

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- Parasocial interaction



# Examples of Telepresence

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- Early 3D film



# Examples of Telepresence

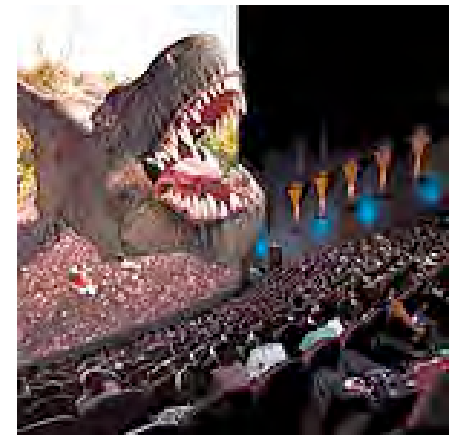
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- Giant Screen Cinema



# Examples of Telepresence

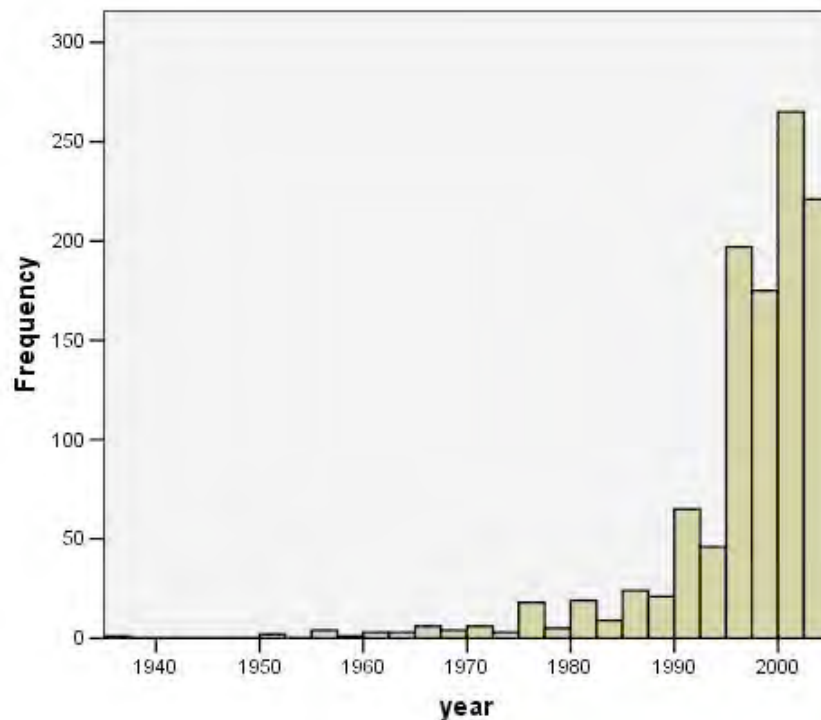
- IMAX 3D



# Academic Interest

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- Topic of scholarly interest and research – causes, effects, implications



# Why Should We Care?

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- It is increasingly common
- It's 'central' – relates to many fields and endeavors, especially communication
- It has many potential effects on individuals, couples, families, organizations, societies, nations
- It raises important ethical challenges
- It's really interesting

# Telepresence, GS Cinema & Science

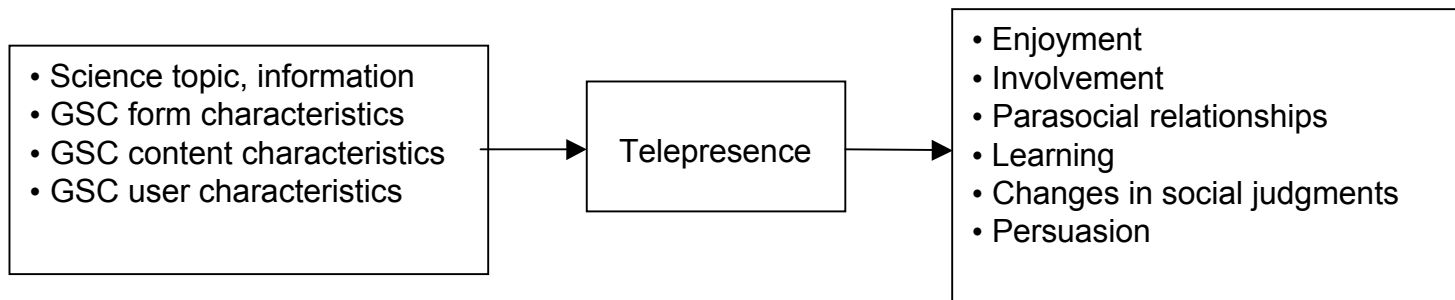
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- Effects include
  - Arousal and vection (self-movement)
  - Enjoyment
  - Involvement
  - Parasocial relationships
  - Learning
  - Changes in social judgments
  - Persuasion

# Telepresence, GSC & Science

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- Telepresence theory and research provides a framework for enhancing the effectiveness of communication of science via giant screen cinema that capitalizes on the format's unique combination of characteristics.



# Telepresence, GSC & Science

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- **Media form:**
  - Already high potential
  - Incorporate 3D imagery and spatial audio
  - Reduce or segregate graphics, text/credits
  - Avoid narration, especially ‘unseen third person’
  - Consider synchronized 4D elements (e.g., room temperature, air jets, vibrating seats, scents)

# Telepresence, GSC & Science

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- **Media content:**
  - Use interesting, compelling topics and make them so
  - Present as story, a transporting narrative
  - Use compelling characters with whom audience can relate, to evoke parasocial interaction and relationships
  - Make events, dialogue and acting seem possible, plausible, socially ‘real’
  - Use a pre-presentation (e.g., while in line) to cognitively prime audience

# Telepresence, GSC & Science

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- **Media user:**
  - Use audience research re: demographics, motivations, attitudes, knowledge levels
  - Select topics with which audience will have some familiarity (or show connections with those topics)
  - Avoid providing information about the technology prior to the experience
  - Plan for ‘unspoken cultural contract’ and use ‘entertainment-education’ strategy

# Telepresence, GSC & Science

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- Schramm's (1971) entertainment contract:

“[W]hereas informational communication asks for the skill of the reporter, entertainment asks for the skill of the artist. ... The receiver, on his part, is expected to be willing to identify with one or more of the characters, to put himself in their places, to feel with them.”

# Telepresence, GSC & Science

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- As telepresence theory and research advance, they'll provide additional guidance
- More research needed

# For More Information

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- International Society for Presence Research  
<http://ispr.info>
- Matthew Lombard, Ph.D.  
<http://matthewlombard.com>  
[lombard@temple.edu](mailto:lombard@temple.edu)



# Presence Research Community

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- Interdisciplinary, like communication
- International
- Growing (EU FETs 50+ mil euros)
- ISPR, Omnipres, Peach web sites
- Presence journal, presence-I listserv
- 11<sup>th</sup> PRESENCE conference October in Padova, Italy
- Telepresence World (business) conferences

# Presence Research Community

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- Research goals
  - Identify and manipulate causes (media form/content, user characteristics)
  - Understand and develop cohesive theory of cognitive, affective, and behavioral processes of telepresence

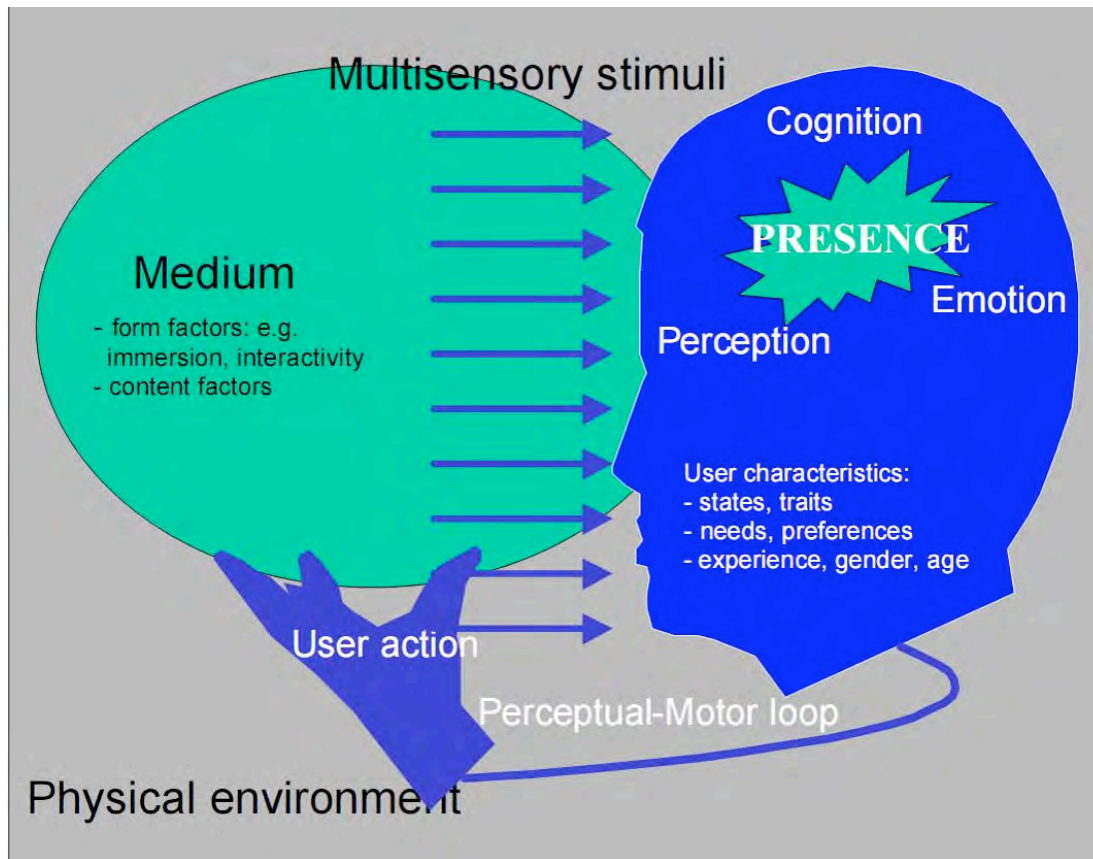
# Presence Research Community

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- Research goals
  - Identify, measure and manipulate consequences of telepresence (learning and task performance, productivity, enjoyment, involvement, persuasion, desensitization, arousal/relaxation, emotion, life/work balance, effectiveness of organizational communication, etc.)

# Presence Research Community

- Research goals



# Examples of Telepresence

- Virtual therapy



# Telepresence and GS Cinema

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- Causes include **media form** variables
  - Number/consistency of sensory channels
  - Image size, quality, dimensionality, proportion of visual field
  - Audio quality, dimensionality
  - Subjective camera techniques (including pov motion)
  - Unobtrusiveness of technology
  - Live versus recorded, constructed experience
  - Interactivity

# Telepresence and GS Cinema

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- Causes include **media content** variables
  - Social realism (plausibility)
  - Lack of familiar media conventions
  - Topic and nature of portrayal, task or activity
  - Compelling narrative or story

# Telepresence and GS Cinema

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- Causes include **media user** variables
  - Willingness to suspend disbelief
  - Knowledge of and prior experience with medium
  - Gender