Simulation in Learning, Education, and Training

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1. Professional Organizations

Associations/Networking

- **Where** Association for Business Simulation and Experiential Learning
- **CoLoS** Conceptual Learning of Science
- **EBEA** The Economics and Business Education Association
- **ETSA** European Training and Simulation Association CIC (ETSA)
- **IMSF** International Marine Simulator Forum (Members)
- **ITSA** International Training and Simulation Alliance (Members)
- **K TSA** Korea Training Systems Association
- **NICE** National Initiative for Cybersecurity Education
- **NASAGA** North American Simulation and Gaming Association
- **NM&SC** National Modeling and Simulation Coalition
- **NTSA** National Training Systems Association (USA) (Membership)
- **SAGSET** The Society for the Advancement of Games and Simulations in Education and Training
- **SEE** The Simulation Exploration Experience
- **Simulation Australasia**

Centers / Universities / Organizations

- **AXIS** – Flight Training Systems
- **CERG** (Chemical Education Research Group, Dept. of Chemistry, Iowa State Univ.)
- **CESI** (Center for Education, Simulation and Innovation) of Hartford Hospital
- **CSBL** Centre for Simulation-based Learning (for health care providers) McMaster University, Hamilton, ON, Canada
- **CSI** (Center for Simulation and Innovation) – University of Arizona – College of Medicine, Phoenix, AZ
- **edutopia** – Game-Based Learning
  - How Online Simulations Work in the Classroom
- **eLearning Industry**
  - Simulations
    - Surgical Simulation Training: Is Virtual Reality The Future of Surgical Training?
- **ERIC** (Institute of Education Sciences) – Simulation in Adult Education
- **Game and simulation-based Learning** Center (at Excelsior College)
- **HETI** (Health Education & Training Institute) - Simulation-based Education
- **ICONS** - An Experiential Learning Program at the University of Maryland
- **ISTC** (Innovation, Simulation, and Training Center) – CHEST (American College of Chest Physicians)
- **JIBC** (Justice Institute of British Columbia) – Simulation Training
- **LBS** (Learning By Simulation)
- **METI** (Medical Education Technologies Inc.)
- **SandBoxModel** - PTB Training Products (on management)
• **SCSIL** (Steinberg Centre for Simulation and Interactive Learning – McGill University)
• **SERC Portal for Education**
  – Why Teach with Simulations?
  – Teaching with Simulations,
  – What are Instructional Simulations?
  – How to Teach with Simulations
• **Simulation-based Education** (International Network of the University of Health Sciences of Cambodia)
• **Simulation-based Education** (Medical) The University of Mississippi, USA
• **Simulation Based Education MSc** – University of Dundee, UK
• **Simulation-based Learning** – INFOPRO Learning
• **Simulation-based Teaching** - UCL Medical School
• **(SM CISL)** Stanford Medicine – Center for Immersive and Simulation-based Learning
• **TIS** – TATA Interactive Systems – Changing the way the world learns

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2. Publications

**Bibliographies:**

- **Bibliography**: Gaming the Past – Historical Simulation Games in the Classroom
- **References and Bibliography** – Learning Science Through Computer Games and Simulations

**Books/Proceedings:**


Special Issues of Journals:


Articles:


**Research Reports/Working Papers:**


From Wiki / Wikipedia:

- Instructional simulation
- List of Educational Software (By subject)
- Simulation and games in economics education
- Simulation and gaming
- Simulation-based learning
- Simulation video game
- Training simulation

From YouTube

- Simulation
- Educational Simulations
3. Conferences / Professional Courses

2017
- 2017 March 8-10, Myrtle Beach, SC, USA
  ABSEL 2017 - 44th Annual Conference
- 2017 May 16-18, Rotterdam, The Netherlands
  ITEC 2017

2016
- 2016 June 16-17, Porto, Portugal
  SGAMES2016 - 6th EAI International Conference on Serious Games, Interaction and Simulation
- 2016 Nov. 2-4, San Antonio, Texas, USA
  MFT 2016 - Military Flight Training USA
- 2016 Nov. 28 – Dec. 2, Orlando, FL, USA
  I/ITSEC 2016 - Interservice/Industry Training, Simulation & Education Conference
- 2016 Nov. 30 – Dec. 2, Orlando, FL, USA
  Training 2016 - Training Magazine’s Innovations in Training 2016
- 2016 Dec. 8-10, Chapel Hill, NC
  Introduction to Simulation-based Teaching, American College of Surgeons

2010
- Nov 29-Dec 2, Orlando, Florida
  I/ITSEC 2010 - Interservice/Industry Training, Simulation & Education Conference
4. Software

**Software: Simulation-based General Educational Resources**

- [50 Great Sites for Serious, Educational Games](#)
- [Center for Polymer Studies](#) (Estimation of pi, Buffon's needle problem, Monte Carlo methods)
- Education World – [Simulations Engage Students in Active Learning](#)
- [Educational games and simulations](#) (SlideShare)
- [Educational Simulations](#) - Web site review project
- edutopia – Made with Play: [Game-Based Learning Resources](#)
- [edutopia](#) – Schools Use Games for Learning and Assessments
- [EvoTutor](#) – Resource for Interactive Simulations of Evolutionary Processes
- [GoVenture](#) - Educational Games and Simulations
- [Harvard Business Publishing](#) for Educators – Teaching with Simulations
- Online Labs in [Chemistry](#), [Physics](#), [Biology](#), [Anatomy](#), [Geology](#), [Astronomy](#), [Design](#), [Math](#)
- Pedagogy in Action – [Teaching with Simulations](#), [Why Teach with Simulations?](#)
- PNET Interactive Simulations: [Physics](#), [Biology](#), [Chemistry](#), [Earth Science](#), [Math](#)
- [Simulation Training Systems](#) – Learning through experience

**Software - from Associations**

- [ABSEL](#) - Association for Business Simulating and Experiential Learning
- [USIP](#) - United States Institute of Peace

**Software - by Topics**

**Aircraft**
- [fsPilotShop](#)

**Astronomy**
- [Earth’s motion](#)
- How the Earth was made?

**Business**
- [15 Business Simulation Games](#) Could Build Hands-on Business Experience

**Chemistry / Chemical Engineering**
- [CACHE](#) – Computer Aids in Chemical Engineering
- [CERG](#) (Chemical Education Research Group, Dept. of Chemistry, Iowa State Univ.)
- [Chemistry Simulations](#) (Royal Society of Chemistry and the PhET)

**Helicopter**
- New simulation software improves helicopter pilot training – Technical University of Munich

**Justice**
- [Praxis](#) – Online Training Simulations
Simulations at JIBC (Justice Institute of BC)

Management
  ChainSIM - Supply Chain Management

Military
  C4I Training Simulations (Ternion)
  Zen Technologies Limited – Training simulators

Peace
  The Ribbon Simulation Game (BCTF100)

Physics
  Interactive Physics and Math with Java
  Physics Curriculum & Instruction – Physics Simulation Software
  PhET - Physics Education Technology
  Physics Lessons
  PhysicsWorld
  Physlets - Physics Applets

Physics: Acoustics
  Physicsweb – Acoustics

Physics: Atoms
  Interactive Physics and Math with Java: Physics of Atom
  iPhysics: Atomic Physics
  Physicsweb: Physics of Atoms

Physics: Electricity, Electronics, Magnetism
  Crocodile Physics - Electricity and Electronics
  PH2200 - University Physics II - Electricity & Magnetism
  Physicsweb - Electronics, Electromagnetism
  Virtual Labs & Simulations - Electricity & Magnetism

Physics: Energy, Heat, Thermodynamics
  iPhysics: Heat
  Physicsweb: Thermodynamics

Physics: Fluid Dynamics
  iPhysics: Fluids
  Physicsweb: Fluid Dynamics

Physics: Mechanics
  Crocodile Physics - Force and Motion
  Interactive Physics and Math with Java: Mechanics
  iPhysics: Mechanics
  PhET - Physics Education Technology - Mechanics

Physics: Nuclear Physics
  Physicsweb - Nuclear Physics

Physics: Optics
  Crocodile Physics – Optics
iPhysics: Light
Interactive Physics and Math with Java: Light

Physics: Oscillations and Waves
   Crocodile Physics - Oscillations and Waves
   Interactive Physics and Math with Java: Oscillations
   iPhysics: Waves (with several classes of examples)
   PhET - Physics Education Technology - Waves

Physics: Pendulum
   Double pendulum
   Simple pendulum

Physics: Relativity
   Physicsweb: Relativity

Physics: Sound
   iPhysics: Sound
   PhET - Physics Education Technology - Sound

Physics: Superconductivity
   Physicsweb: Superconductivity

Physics: Theoretical Physics
   Physicsweb: Theoretical Physics

Space
   7 Space simulators that let you explore the universe
   Christa McAuliffe Space Education Center
   NASA Space Educational Simulations
5. Modeling and Simulation (M&S)

Professional Groups
Associations/Organizations/Committees, Centers/Groups, Military Organizations

Ethics
Publications and presentations of Dr. Tuncer Ören on Ethics
A Code of Professional Ethics for Simulationists (At SCS)
The Ethics of a Simulated Universe, by Rick Searle, The Institute for Ethics and Emerging Technologies
The Ethics of Computer Game Design, by M. Sicart
The Ethics of Simulation, by A.B. Smith and S.E. Lammers, Lehigh Valley Health Network

From Search Engines:
   Bing: “ethics of simulation”
   Google: “ethics of simulation”

6. Additional info
From search engines:

Bing:
simulation-based: learning, adult learning, education, teaching, training;
educational simulation;
online learning with simulation
simulation and games for education
simulation in ethics education
simulation in justice education

Google:
simulation-based: learning, education, teaching, training
educational simulation

Lessons Planet:
simulation
archeology simulation game

SemanticScholar:
simulation-based: learning, education, teaching, training;
educational simulation