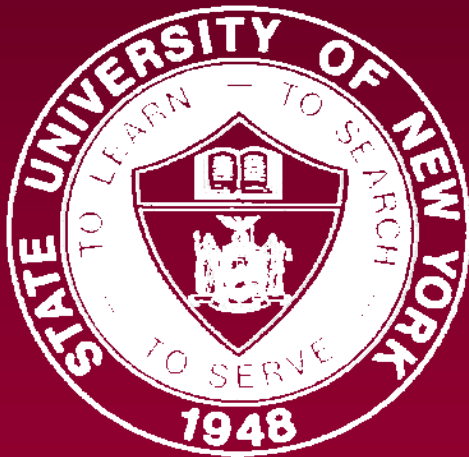


Best of MERLOT

The Multimedia Educational Resource for Learning and Online Teaching



Peter McCoy, Potsdam

John Prusch, SUNY System

Richard Staley, Oneonta

Craig Lending, Brockport

Miquel Arcones, Binghamton

Serajit Sen, Buffalo

William Pelz, Herkimer

Carla Meskill, Albany

Peter Shea, SUNY System

What is it?



MERLOT is a Non-Profit COOPERATIVE

- INSTITUTIONAL PARTNERS
- ORGANIZATIONAL AFFILIATIONS
- CONTENT REVIEW TEAMS
- EXTERNAL REVIEWERS
- INDIVIDUAL MEMBERS

MERLOT is a SET OF PROCESSES

Peer review of online teaching-learning materials and building online, discipline-based communities.

MERLOT is SOFTWARE

A free, searchable database of online learning materials, pedagogical support, and people

SUNY's Role

Support faculty reviewers for:

- Biology - Craig Lending – Brockport
- World Languages – Carla Meskill – Albany
- Mathematics – Miquel Arcones – Binghamton
- Teacher Education – Richard Staley – Oneonta
- Teaching and Technology - John Prush - SLN
- Psychology – Bill Pelz – Herkimer
- Music – Peter McCoy – Potsdam
- Physics - Serajit Sen - Buffalo



Format

- 1) a brief update on each discipline
- 2) a few words on the peer review process
- 3) some good examples of what the collection contains
- 4) how others can get involved in MERLOT

Physics

*Editorial
Board (2003)*

T. Bradfield
T. Colbert
R. Greene
B. Mason
(Editor)
J. Rauber
S. Sen
P. Sheldon

Outline

1. Material & Review
2. Accomplishments and the Road Ahead

by

Surajit Sen

Department of Physics,
State University of New York at Buffalo
Buffalo, NY 14260-1500
sen@physics.buffalo.edu

1. Material & Review

The MERLOT search page

A glimpse at the resource base

MERLOT PHYSICS Search Materials: go [search tips](#)
[Home](#) [Browse Materials](#) [Contribute Material](#) [Advanced Search](#) [Member Directory](#) [Help](#)
Advanced Search For Materials
 Enter values for specific fields below:

Subject Category: Search
 Classical Mechanics
 Angular Motion and Torques
 Energy and Momentum
 Linear Motion, Forces, and Equilibrium
 Electricity and Magnetism
 Circuits
 E and M Statics
 Optics
 Radiation

Material Type:
 Title or Name:
 Content URL:
 Description:
 Primary Audience:
 Technical Format:
 Source Code Available: yes
 Use License:
 Author's Name:
 Author's Email:
 Author's Organization:
 Peer Reviews Available: yes Minimum Panel Rating:
 User Reviews Available: yes Minimum User Rating:
 Assignments Available: yes

MERLOT PHYSICS Search Materials: go [search tips](#)
[Home](#) [Browse Materials](#) [Contribute Material](#) [Advanced Search](#) [Member Directory](#) [Help](#)
Browse Materials by Subject

- Physics (1366)**
 - General (199)
 - Classical Mechanics (239)
 - Oscillations and Waves (164)
 - Thermodynamics and Statistical Mech
 - Electricity and Magnetism (430)
 - Modern Physics (278)
 - General (21)
 - Relativity (13)
 - Atomic and Molecular (53)
 - Nuclear and Particle (65)
 - Condensed Matter (126)
 - Laser Physics (4)
 - Quantum Mechanics (50)

Your search found 1366 materials
 Default sort order by rating. Resort by: Go
Category: Science and Technology/Physics
 Items 1 - 10 shown.

Title	Author	Date	Rating	Item Type
Optics Bench Physlet (Simulation)	Author: Wolfgang Christian	Location: http://webphysics.davidson.edu/Applets/optics4/default.html	(1) avg: ★★★★★	Peer Reviews (1) User Comments (1)
Applets for quantum mechanics (Simulation)	Author: Manuel Joffre	Location: http://www.quantum-physics.polytechnique.fr/	(7) avg: ★★★★★	Peer Reviews (7) User Comments (7)
Particle Adventure (Tutorial)	Author: Michael Barnett		avg: ★★★★★	Peer Reviews (1)

1(a). Material – A Glimpse of the Introductory and the Advanced

EXAMPLES OF INTRODUCTORY PHYSICS RESOURCES (SITES WITH MANY AND FEW ITEMS)

Get smarter in math and science (Quiz/Test)

Author: Council on Competitiveness

A new free science and math web site, www.getsmarter.org, will offer students from kindergarten...

Location: <http://www.getsmarter.org/>

Vector Addition (Physics, Math) (Simulation)

Author: Fu-Kwun Hwang

Graphically adds any two vectors to get a third.

Location: <http://www.phy.ntnu.edu.tw/~hwang/vector/vector.html>

Kinetic Energy (Simulation)

Author: Sean Russell

Kinetic energy experiments.

Location: <http://jersey.uoregon.edu/vlab/KineticEnergy/index.html>

Sigma Xi Undergraduate Science Education Resources (Collection)

Author: Sigma Xi Forum on Undergraduate Education, 1999

This web page offers links to sites addressing undergraduate education reform, inquiry-based ...

Location: <http://www.sigmaxi.org/scienceresources/undergradedu.htm>

Kepler Motion (Physics) (Learning Material)

Author: Fu-Kwun Hwang

Uses vectors to illustrate Kepler motion.

Location: <http://www.phy.ntnu.edu.tw/~hwang/Kepler/Kepler.html>



A few more advanced topics

Angular Momentum of a Gyral Top (3D) (Simulation)

Author: Xing-Min Wang

Part of the Physics in Action series. Also see Quantized Angular Momentum.

Location: <http://www.bluneptune.com/~xmwang/myGUI/TopRot.html>

Traffic Control System (Physics, Math) (Simulation)

Author: Fu-Kwun Hwang

Invites you to engineer the traffic light system for a one-way street that consists of several lanes...

Location: <http://www.phy.ntnu.edu.tw/~hwang/trafficControl/trafficControl.html>

VoroGlide (Simulation)

Author: Christian Icking, Rolf Klein, Peter Klner, Lihon Ma

VoroGlide allow to watch how the structure of the Voronoi diagram/Delaunay triangulation/convex hull...

Location: <http://wwwpi6.fernuni-hagen.de/java/anja/>

Control the Nuclear Power Plant (Animation)

Author: Henrik Eriksson

This animation simulates a nuclear power plant.

Location: <http://www.ida.liu.se/~her/npp/demo.html>

The Two-Dimensional Ising Model (Reference Material)

Author: Peter Young

This is an evolution of the Simple Ising Model v1.0 by Bernd Nottelmann.

Location: <http://bartok.ucsc.edu/peter/java/ising/ising.html>



1(b). Review Process

Peer Review Process

Two independent reviews

Single, composite review

Authors agree to posting reviews

Rating scale: 1 – 5 and “Comment Only”

Three general review areas

Peer Review Criteria

Quality of Content

- Correct Physics, useful, unique, ...

Ease of Use

- Interface simple for students to use
- Material easy for instructor to use

Effectiveness as a Learning Tool

- Active learning, engaging
- Supplemental material

What's Next?

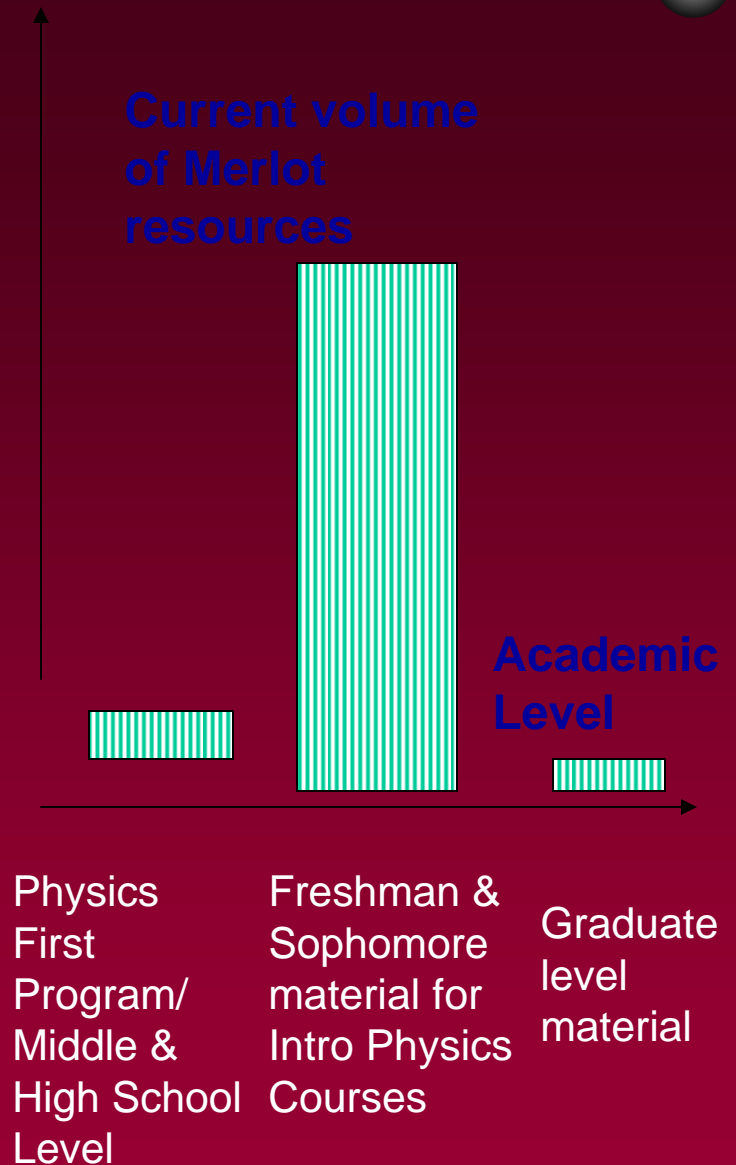
Towards a journal model

Author submissions

Connect with Professional Organizations

More reviewers (External)

Find more funding



2. Accomplishments and the Road Ahead

Approximate Rate of Reviewing
Over 1600 Items since early 2000
Categorized (Twice)
Triageed (Twice)
60+ reviews written/year

We need submissions of sites

- Everyone's favorite, high quality items
- Authors submit and control their items on MERLOT
- Cataloging help is available

Why Review for MERLOT?

- ✓ Participate in the development of a premier quality global free-access digital library
- ✓ Ability to contribute to the development of quality resources for students and benefit therefrom
- ✓ Professional recognition in the form of

creative peer-reviewed teaching material development by home institutions &

Letter of Recognition from MERLOT Editor



Music

Peter McCoy, Editorial Review Team
mccoypm@potdam.edu



World Music

<http://www.dancedrummer.com/>

Music Technology

<http://www.gmi.edu/~drussell/Demos.html>

Music Theory

<http://www.teoria.com/java/eng/CCTest.htm>

Teaching and Technology

--The Newest MERLOT Community



John Prusch
SUNY Learning Network



Who we are...

- An inter-disciplinary community
- Supporters of faculty in higher education
- Instructors, instructional designers, faculty development officers and technology support providers...



What this collection is about

- reflections
- best practices
- instructional support ideas
- resources and materials

---All to advance the pedagogical understanding of teaching with technology, whether in the classroom, online or in blended models.



Peer Review Process

- Helps you decide which materials will work best
- Emphasizes user's perspective
- Follows model of peer review of scholarship
- Evaluates materials according to:
 - Quality of content
 - Potential Effectiveness as a Teaching
- Tool
 - Ease of Use
- Rates each material with 1-5 Stars, 3 minimum



A Couple Examples from T & T

[The Virtual Instructional Designer \(VID\)](#)

[Principles of Online Design Checklist](#)



Get Involved!

Contact : rcpurdom@uncg.edu, carmean@asu.edu,
John.Prusch@sln.suny.edu

- **Contribute**
- **Review**
- **Reap the benefits**
 - Improve the quality of scholarship & teaching
 - Enjoy increased recognition



Teacher Education

Richard Staley
Department of Educational Psychology &
Counseling
SUNY College at Oneonta



The Teacher Education Collection

- A total of 656 items in 9 categories
- 108 reviews completed
- 23 items under review



The Review Process

MERLOT categories of evaluation standards

- Quality of Content
- Potential Effectiveness as a Teaching-Learning Tool
- Ease of Use

Discipline team “leans toward” items based on timely & important topics

Personal preferences include items based on measurable objectives & incorporating interactivity



Examples from the Collection

[Concept Map Software & Tutorial](#)

[Arts Education K-6 Lesson Plans](#)

[Collaborative Learning: Small Group Learning Page](#)



Getting Involved

- Become an external reviewer
- Add assignments to existing items
- Add new learning objects
- Add comments about items that you have used
- Tell your colleagues about items that you have used successfully



Biology

Craig Lending- SUNY Brockport



Peer Review Process

- Quality of Content
- Potential Effectiveness as a Teaching - Learning Tool
- Ease of Use



Quality of Content

- Does the software present valid (correct) concepts, models, and skills?
- Does the software present educationally significant concepts, models, and skills for the discipline?

POTENTIAL EFFECTIVENESS AS A TEACHING-LEARNING TOOL

What stage(s) in the learning process/cycle could the materials be used

- **Explanation or description of the topic/stating the problem**
- **Demonstration of the curriculum/exploration of the problem**
- **Practice using the curriculum/analysis of the outcomes from solving the problem**
- **Applying the curriculum to "new" problems/application of the outcomes to other problems**

What is (are) the learning objective(s)? What should students be able to do after successfully learning with the materials?

What are the characteristics of the target learner(s)

Ease of Use

- Are the labels, buttons, menus, text, and general layout of the computer interface consistent and visually distinct?
- Does the user get trapped in the software?
- Can the user get lost easily in the software?
- Does the software provide feedback about the system status and the user's responses?
- Does the software provide appropriate flexibility in its use?
- Does the software require a lot of documentation, technical support, and/or instruction for most students to successfully use the software?
- Does the software present information in ways that are familiar for students?
- Does the software present information in ways that would be attractive to students?



BIOLOGY Examples

DNA from the Beginning

<http://vector.cshl.org/dnaftb/>

FlyLab

<http://biologylab.awlonline.com>

Neuroscience for Kids

<http://faculty.washington.edu/chudler/neurok.html>



How To Get Involved

- Become an external reviewer
- Contribute material (your own or others that you find useful on the Internet)
- Join MERLOT and make your professional information available in the member directory
- Attend the Yearly International MERLOT Conference



Mathematics

Miguel Arcones- SUNY Binghamton



Mathematics/Statistics Update

- **Need to use graphs, and do computations using a computer**
- **Web as alternative to statistical packages**
- **Applets: free, visual, moving, interactive**
- **Other: reference material, exercises, interactive quizzes,**



Peer Review Process

- freedom to publish in the web
- need to select material
- peer review in pairs



Mathematics Examples

<http://stat-www.berkeley.edu/users/stark/Java/StandardNormal.htm>

<http://128.32.135.2/users/stark/Java/NormHiLite.htm>

http://www.ruf.rice.edu/~lane/stat_sim/normal_approx/index.html

<http://www.math.uah.edu/stat/>

<http://www.stat.uiuc.edu/~stat100/java/GCApplet/GCAppletFrame.html>



How To Get Involved

- Presentations
- Become an external reviewer
- Contribute material (your own or others that you find useful on the Internet)

PSYCHOLOGY

Professor Bill Pelz
Herkimer County Community College

Peer Review Process:

Typical Peer Review Steps:

Triage by at least two reviewers

Two Individual Reviews

Decision: combine reviews vs. post both

Post review(s) to MERLOT site



Search Materials: GO

[advanced search](#) | [search tips](#)

Hello, [William Pelz](#) | [Don't Remember Me](#)

[Home](#) [Communities](#) [Browse Materials](#) [Workspace](#) [Contribute Material](#) [Member Directory](#) [Help](#)

Welcome to MERLOT Psychology!

[Visit the main MERLOT](#)

Highlights

[Tasting Room](#)

Learn about the MERLOT project

[Calendar](#)

Events and announcements

[MERLOT Conferences](#)

Yearly International Conferences

[Peer Review Process](#)

How materials are reviewed

[Assignments](#)

Learn more about assignments

[Recent Additions](#)

The newest materials in MERLOT

MERLOT is a free and open resource designed primarily for faculty and students of higher education. Links to online learning materials are collected here along with annotations such as peer reviews and assignments.

You are welcome to browse the collection or search for materials. Members may add materials, comments and assignments to MERLOT. [Membership](#) is free.

What would you like to know?

[What will I see when I look at a learning material?](#)

[What can I do with the materials I find in MERLOT?](#)

[Who contributes the materials to MERLOT?](#)

[Who oversees and maintains MERLOT?](#)

The MERLOT Community

MERLOT is also a community of people who are involved in education. Community members help MERLOT grow by contributing materials and adding

Browse the Collection by Subject

[Biological](#)

[Clinical](#)

[Cognitive](#)

[Community and Health](#)

[Developmental and Life-Span](#)

[Diversity](#)

[Ecological](#)

[Ethics](#)

[History and Systems](#)

[Industrial and Organizational](#)

[Learning and Memory](#)

[Personality](#)

[Sensation and Perception](#)

[Social](#)

[Statistics and Research Methods](#)

Browse Materials by Subject

Click on the ► symbol to see sub-categories. Click on the category name to see items in that category.

Browse Path: [All](#) > [Social Sciences](#) > [Psychology](#)

- [Biological \(23\)](#) ► [Clinical \(66\)](#) [Cognitive \(49\)](#)
- [Community and Health \(31\)](#) [Developmental and Life-Span \(44\)](#) [Diversity \(7\)](#)
- [Ecological \(6\)](#) [Ethics \(8\)](#) [History and Systems \(13\)](#)
- [Industrial and Organizational \(3\)](#) [Learning and Memory \(28\)](#) [Personality \(21\)](#)
- [Sensation and Perception \(33\)](#) [Social \(34\)](#) [Statistics and Research Methods \(24\)](#)

Results Path: [All](#) > [Social Sciences](#) > [Psychology](#) > [Clinical](#) > [Assessment](#)

Your search found 4 materials

Category: [All/Social Sciences/Psychology/Clinical/Assessment](#)
Items 1 - 4 shown.

Default sort order by rating. Resort by:

Title | **Author** | **Date Entered** | **Rating** | **Item Type**

<p>Forensic and Psychological Assessment and Expert Witness (Reference Material) Author: Ron Kimball, PhD</p>	<p>Peer Reviews: (not reviewed) Member Comments (2) avg: ★★★★★ Assignments (none) Collections (none)</p>
---	--

Location: <http://www.foren-psych.com/>
Added: Nov 23, 2002

[Assessing Test Reliability](#) (Reference Material) Peer Reviews: (not reviewed)



Examples from the Psychology Collection

Biological Clinical Cognitive Community and Health
Developmental and Life-Span
Diversity Ecological Ethics
History and Systems
Industrial and Organizational
Learning and Memory Personality
Sensation and Perception Social
Statistics and Research Methods



Search Materials: GO

[advanced search](#) | [search tips](#)

Hello, [William Pelz](#) | [Don't Remember Me](#)

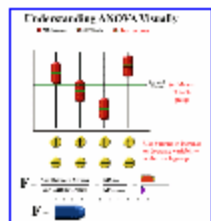
[Home](#) | [Communities](#) | **[Browse Materials](#)** | [Workspace](#) | [Contribute Material](#) | [Member Directory](#) | [Help](#)

MERLOT Psychology Detail View

[Visit the main MERLOT](#)

[Detail View](#) | [Peer Reviews \(1\)](#) | [Member Comments \(2\)](#) | [Add](#) | [Assignments \(0\)](#) | [Add](#) | [Item Workspace](#)

Visual Analysis of Variance (ANOVA) , [FEATURE](#)



[See larger photo](#)

Average Ratings: [Peer Reviews](#) :★★★★★
[Member Comments](#) :★★★★

Type: Simulation

Location: <http://www.psych.utah.edu/learn/statsampler.html>

Primary Subject -Education/TeacherEd/Educational Research
Category: -Social Sciences/Statistics
 -[Social Sciences/Psychology/Statistics and Research Methods](#)

Author: [Tom Malloy](#)
 University of Utah Department of Psychology

Add to a Personal Collection

[Found in 8 Personal collections.](#)

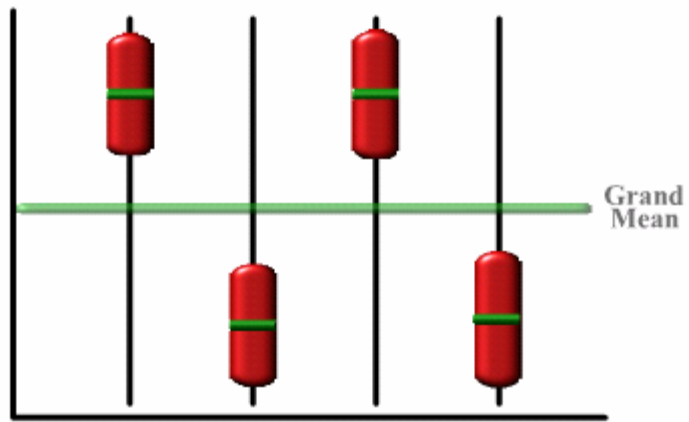
submitted: May 24, 2001
 modified: Apr 2, 2003

Description: Visual ANOVA is an interactive Flash program which demonstrates visually how variability between and within experimental groups contributes to the F ratio in the Analysis of Variance. It is not a numerical calculator; rather it visually and holistically demonstrates the relations among important concepts. Visual ANOVA is supported by online instructions and by an extensive online lecture explaining the

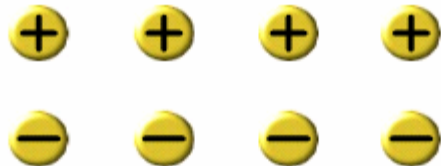
[Handwritten Homework with Answer Key](#)

Understanding ANOVA Visually

MS_{Between}
 MS_{Within}
 Instructions



Drag red group icons to change means and create variability between groups



Use buttons to increase or decrease variability within each group

$$F = \frac{\text{Var Between Means}}{\text{Var Within Groups}} = \frac{MS_{\text{Bet}}}{MS_{\text{Within}}} = \frac{\text{Orange bar}}{\text{Purple bar}}$$





The MERLOT
Peer Review Process –
Why YOU should get
involved..

Carla Meskill
SUNY Albany



MERLOT Assumptions

- Faculty want and deserve mechanisms to document their contributions to teaching and learning.
- Faculty-led peer review processes are the key to expanding the use and effectiveness of digital learning materials.



For Authors

Scholarly Recognition

- Basis for tenure/promotion/retention
- Standards and quality control

Feedback

- Correct existing errors
- Recommendations for upgraded material
- New faculty synergies, ideas



For Review Board Members

Scholarly Recognition

- For tenure/promotion/retention
- Equivalent to scholarly journal review
- New faculty synergies, ideas, community

Merlot Discipline Groups

Biology

Business

Physics

**Teacher
Ed**

Chemistry

History

Psych

**World
Languages**

**Health
Sciences**

Math

Music

**Info
Tech**



Visit your Discipline Community at
<http://www.merlot.org>

**Contact your discipline area
editors**
Say –
***I'm interested in
becoming a MERLOT editorial
board member.***



You'll be glad you did!