

# Enhancing the Teaching of Statistics Using SOCR

*It's Online, Therefore It Exists!*



Nicolas Christou, Ivo D. Dinov & Juana Sanchez

[www.SOCR.ucla.edu](http://www.SOCR.ucla.edu)

2007 Joint Statistical Meetings

August 1, 2007

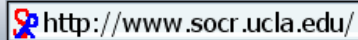
# Outline

- What is SOCR?
- How to access SOCR
- Components of SOCR
  - Distributions
  - Experiments
- Activities (Wiki)
- Future Research and Development

# Accessing SOCR

 **SOCR: Statistics Online Computational Resource - Netscape**

File Edit View Go Bookmarks Tools Window Help

 <http://www.socr.ucla.edu/>

Home My Netscape Search Customize...

New Tab SCI-BITES: Journals Ranke... SOCR Events SOCR CAUSE... SOCR: Statistics Online Co...

[SOCR Home](#)

[Tools](#)

[Distributions](#)

[Experiments](#)

[Analyses](#)

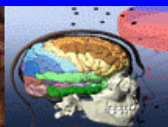
[Games](#)

[Modeler](#)

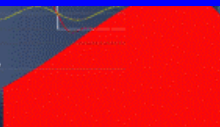
[Charts](#)

[More](#)

[Translate SOCR](#)



**Statistics Online Computational Resource**



[SOCR News, Events, Announcements](#) [SOCR/CAUSEway 2007 Workshop](#) *It's online, therefore it exists!*

## What is SOCR?

The goals of the SOCR Resource are to design, validate and freely disseminate knowledge. Our Resource specifically provides portable online aids for probability and statistics education, technology based instruction and statistical computing. SOCR tools and resources include a repository of interactive applets, computational and graphing tools, instructional and course materials.



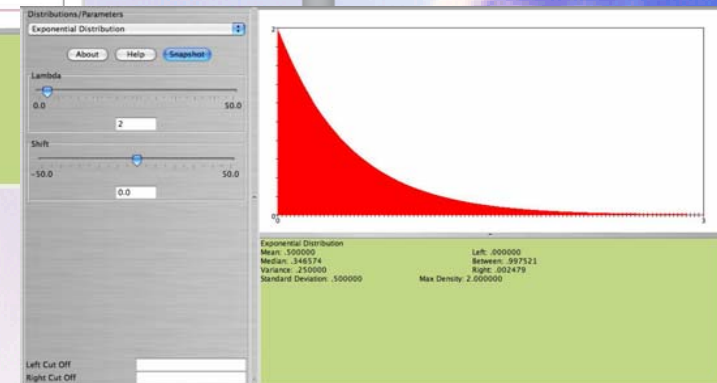
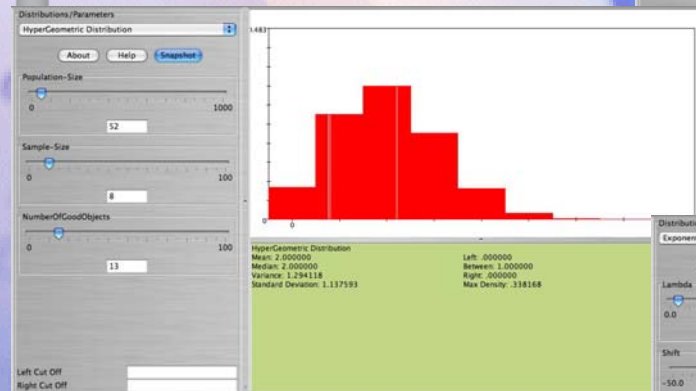
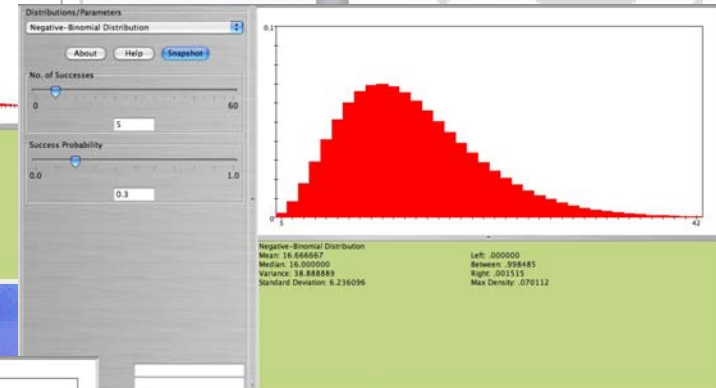
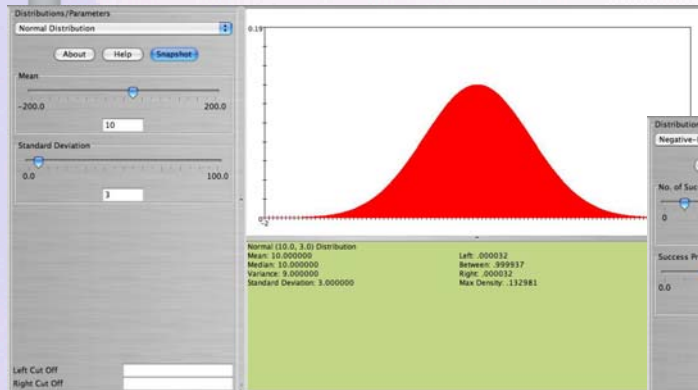
## INTERACTIVE SOCR TOOLS

[SOCR Distributions](#)  
[SOCR Experiments](#)  
[SOCR Analyses](#)  
[SOCR Games](#)  
[SOCR Data Modeler](#)  
[SOCR Plots & Charts](#)

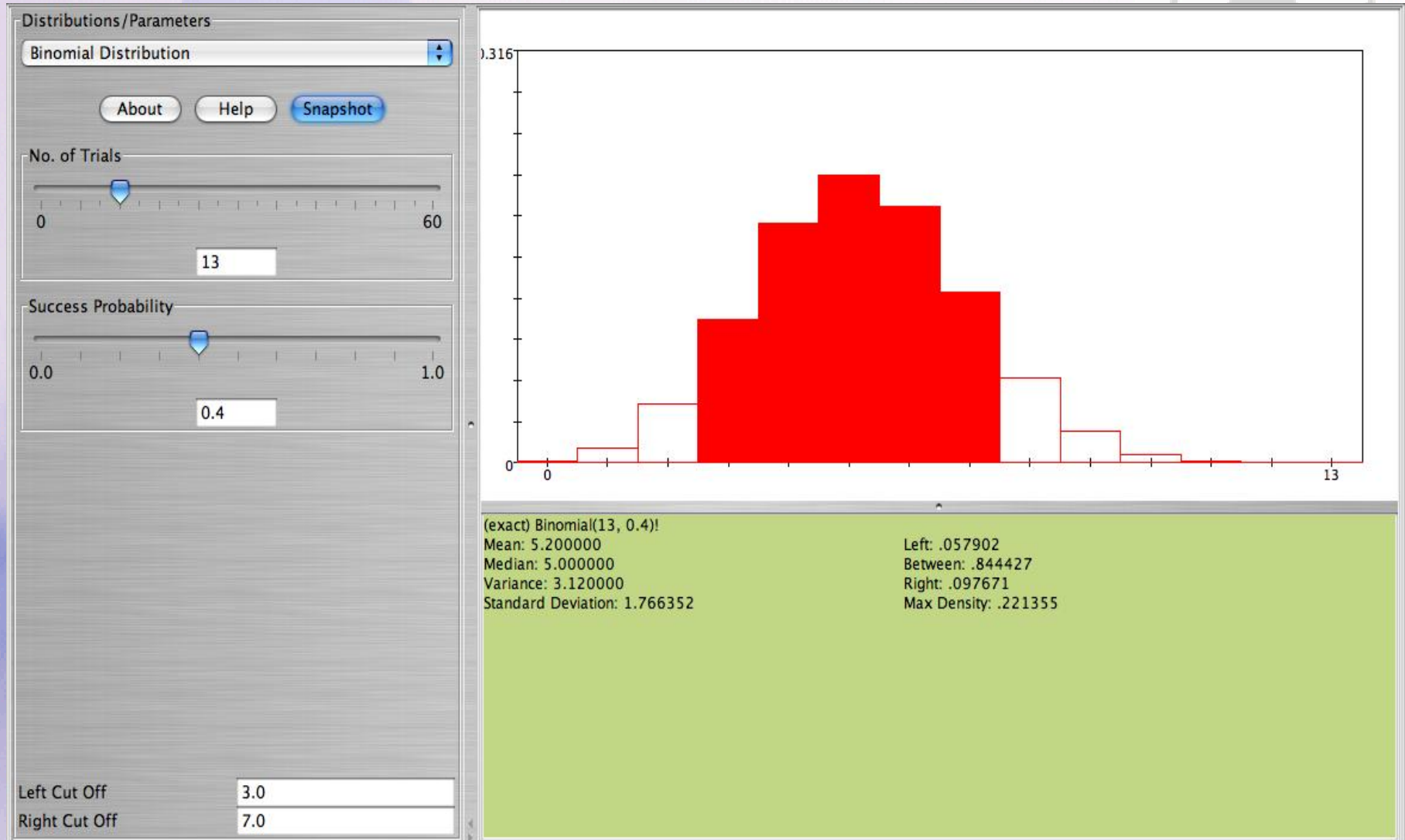
# Distributions

## FEATURES

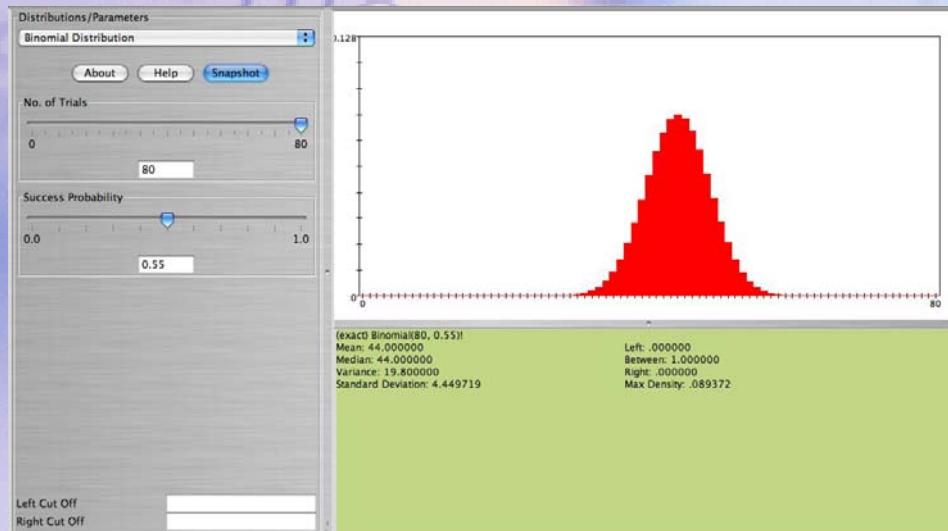
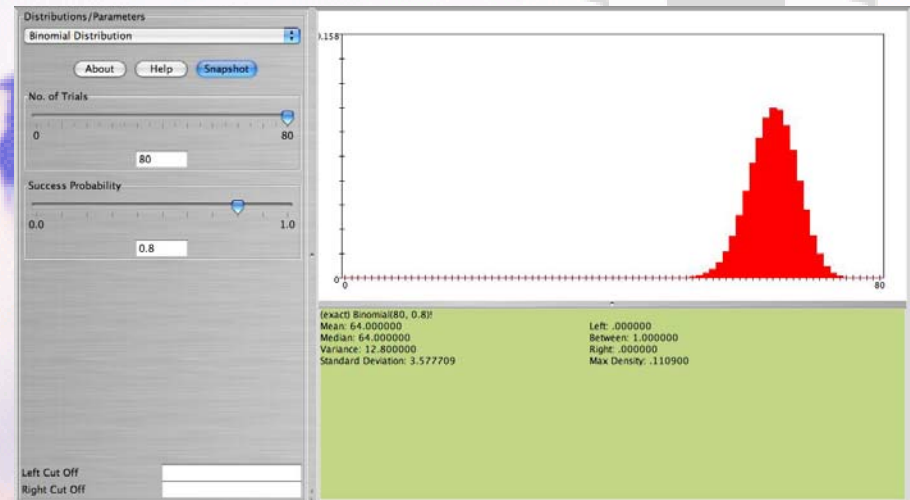
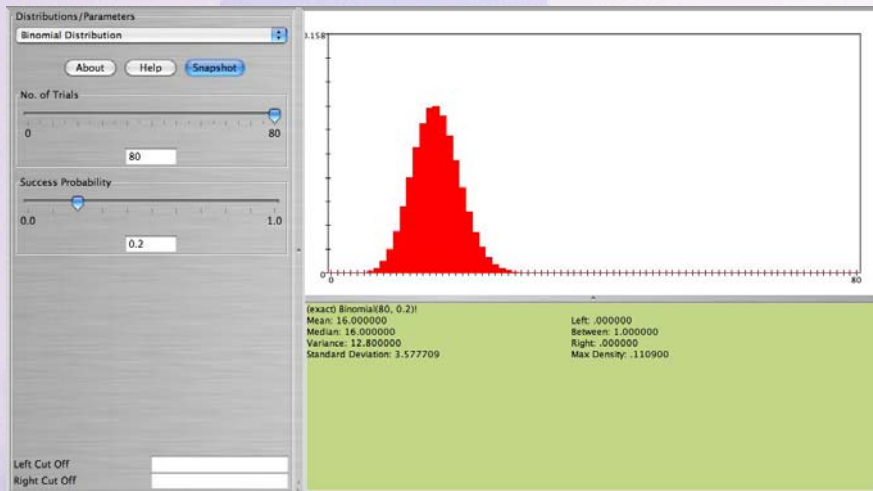
- 45+ Distributions
- Graphs
- PDFs
- CDFs
- Inverse CDFs
- Moments



# Binomial distribution



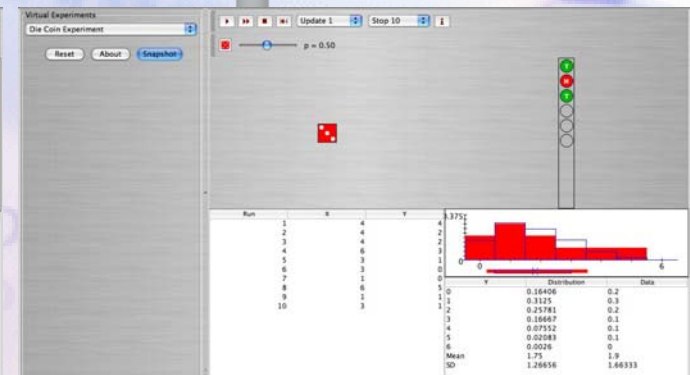
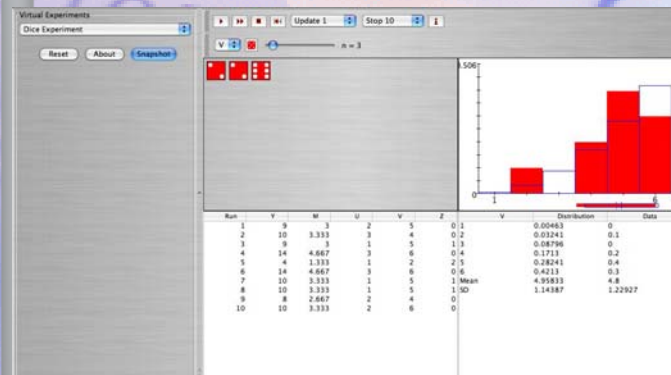
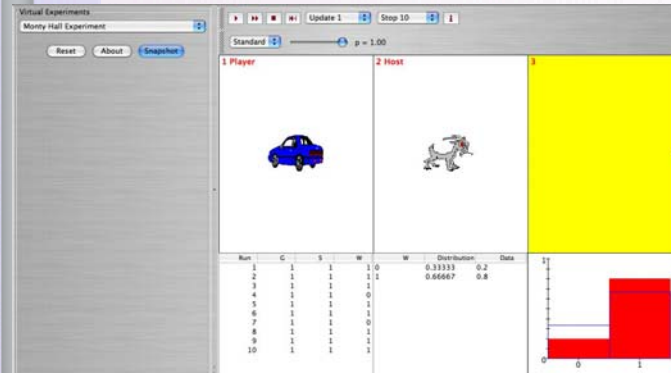
# Normal approximation to binomial



# Experiments

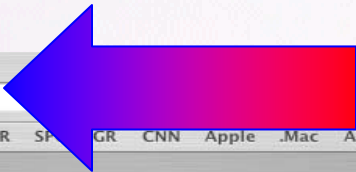
## FEATURES

- 60+ Experiments
- Simulations
- Summary Stats
- Model vs. Sample



# Activities

[http://wiki.stat.ucla.edu/socr/index.php/Main\\_Page](http://wiki.stat.ucla.edu/socr/index.php/Main_Page)



- navigation
- Main Page
  - Community portal
  - Current events
  - Recent changes
  - Random page
  - Help
  - Donations
  - Keyword Search

search

Go Search

- toolbox
- What links here
  - Related changes
  - Upload file
  - Special pages
  - Printable version
  - Permanent link

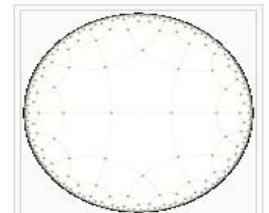
article discussion view source history

## Main Page

It's online, therefore it exists!

### Main SOCR Wiki Pages

- Interactive SOCR Resource Viewer
- SOCR Documentation
- SOCR Blog
- SOCR Educational Materials
- SOCR News, Events and Announcements
- SOCR Collaborators and Partners
- SOCR Projects
- SOCR Videos



Interactive SOCR Resource Viewer

- SOCR Home page: <http://www.socr.ucla.edu> or <http://www.StatisticsResource.org>

Translate this page:





# Educational Materials

SOCR EduMaterials - Socr

http://wiki.stat.ucla.edu/socr/index.php/SOCR\_EduMaterials

Google

LATimes NYTimes MyUCLA Google kathimerini Eleftherotypia SportnetGR SPORTGR CNN Apple .Mac Amazon eBay Yahoo! News (1395) Apple (124)

SOCR EduMaterials - Socr

Log in / create account

article discussion edit history

## SOCR EduMaterials

### SOCR Wiki - SOCR Activities [edit]

- [SOCR Distributions Activities](#)
- [SOCR Experiments Activities](#)
- [SOCR Analyses Activities](#)
- [SOCR Games Activities](#)
- [SOCR Modeler Activities](#)
- [SOCR Charts Activities](#)
- [SOCR General Activities](#)
- [SOCR Course Specific Activities](#)

### SOCR Wiki - Educational Materials [edit]

- [SOCR Wiki Editing Guideline](#)
- [SOCR Courses](#)
- [SOCR Surveys](#)
- [SOCR Instructor Plans](#)
- [SOCR AP Statistics Curriculum \(E-Book\)](#)
- [SOCR Evaluations](#)
- [SOCR Brochure](#)
- [SOCR Home page: http://www.socr.ucla.edu](#)

Translate this page:

 (default)  Deutsch  Español  Français  Italiano  Português  日本語

# SOCR Distributions Activities

SOCR EduMaterials DistributionsActivities - Socr

http://wiki.stat.ucla.edu/socr/index.php/SOCR\_EduMaterials\_DistributionsActivities

LATimes NYTimes MyUCLA Google kathimerini Eleftherotypia SportnetGR SPORTGR CNN Apple .Mac Amazon eBay Yahoo! News (1395) Apple (124)

SOCR EduMaterials Distrib... [Log in / create account](#)

[article](#) [discussion](#) [edit](#) [history](#)

## SOCR EduMaterials DistributionsActivities

### SOCR Educational Materials - Distribution Activities [\[edit\]](#)

- SOCR Binomial, Geometric, Hypergeometric Distributions Activity
- SOCR Continuous Distributions Activity
- SOCR Exponential Distribution Activity
- SOCR General Central Limit Theorem
- SOCR Negative Binomial Distribution Activity
- SOCR Normal Distribution Activity
- SOCR Poisson Distribution Activity
- Explore relationships among distributions
- Discrete Probability Distributions-examples
- Normal Probability Distribution-examples
- Central Limit Theorem and Chi-Square examples
- More examples on distributions

■ SOCR Home page: <http://www.socr.ucla.edu>

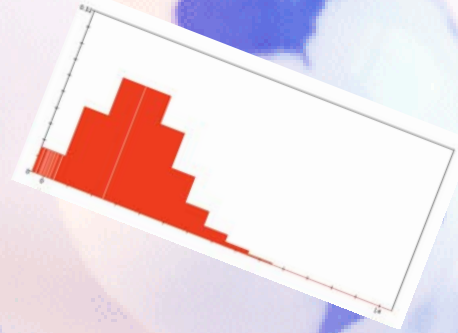
Translate this page:

(default) Deutsch Español Français Italiano Português 日本語

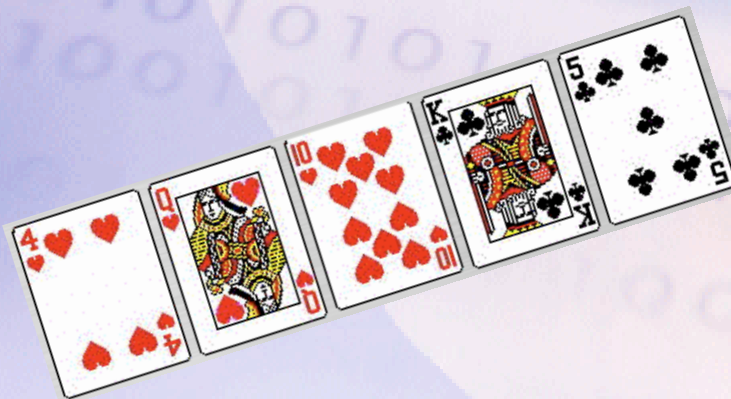
한국어 中文 繁体中文 Русский Nederlands Ελληνικά

# Demonstration

- Poisson distribution



- Poker experiment



# Future Research and Development

- SOCR usage
- Classroom testing for the effectiveness of SOCR (2005-06, 2006-07)
- New tools under development
- More SOCR activities for Wiki page
- SOCR Workshop at UCLA, August 6-8, 2007
  - Live web streaming available at:

[http://wiki.stat.ucla.edu/socr/index.php/SOCR\\_Events\\_Aug2007](http://wiki.stat.ucla.edu/socr/index.php/SOCR_Events_Aug2007)

