

Internet Resources of

**Computer Aided Surgery**

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<http://homepage2.nifty.com/cas/>

Last Updated: 2004/03/05

**Computer Aided Surgery: References****Journals, Books and TV****Computer Aided Surgery**<http://www.interscience.wiley.com/jpages/1092-9088/>Formerly "Journal of Image Guided Surgery". Official Journal of [ISCAS](#).**Minimally Invasive Therapy & Allied Technologies (MITAT) NEW!**<http://www.tandf.co.uk/journals/titles/13645706.asp>

Official journal of SMIT.

**Computer Assisted Radiology and Surgery**<http://www.springer.de/>

Proceedings of CARS-ISCAS.

- "CARS 2002 Computer-Assisted Radiology and Surgery" (ISBN 3-540-43655-3) 159.43 Euro

Proceedings from 1996 to 2001 were published from Elsevier, as a series of "International Congress Series".

- Vol.1230:"CARS 2001 - Computer Assisted Radiology and Surgery" (ISBN 0-444-50866-X)
- Vol.1214:"CARS 2000 - Computer Assisted Radiology and Surgery" (ISBN 0-444-50536-9)
- Vol.1191:"CARS '99 - Computer Assisted Radiology and Surgery" (ISBN 0-444-50290-4)
- Vol.1165:"CARS '98 - Computer Assisted Radiology and Surgery" (ISBN 0-444-82973-3)
- Vol.1134:"CAR '97 - Computer Assisted Radiology and Surgery" (ISBN 0-444-82756-0)
- Vol.1124:"CAR '96 - Computer Assisted Radiology" (ISBN 0-444-82497-9)

**Studies in Health Technology and Informatics**<http://www.iospress.nl/>

Proceedings of MMVR.

- Vol.98:"Medicine Meets Virtual Reality 12" (ISBN 1 58603 404 9) US\$150
- Vol.94:"Medicine Meets Virtual Reality 11" (ISBN 1 58603 320 4)
- Vol.85:"Medicine Meets Virtual Reality 02/10" (ISBN 1 58603 203 8)
- Vol.81:"Medicine Meets Virtual Reality 2001" (ISBN 1 58603 143 0)
- Vol.70:"Medicine Meets Virtual Reality 2000" (ISBN 1-58603-014-0)
- Vol.62:"Medicine Meets Virtual Reality VII" (ISBN 90-5199-445-1)
- Vol.50:"Medicine Meets Virtual Reality" (ISBN 90 5199 386 2)
- Vol.39:"Medicine Meets Virtual Reality" (ISBN 90-5199-299-8)
- Vol.29:"Medicine Meets Virtual Reality" (ISBN 90-5199-250-5)

**Lecture Notes in Computer Science**<http://www.springer.de/comp/lncs/index.html>

Proceedings of MICCAI and its ancestors. They are good books to investigate latest research information.

- Vol.2878:" Medical Image Computing and Computer-Assisted Intervention - MICCAI 2003, Part

I" (ISBN 3-540-20462-8), 82 Euro

- Vol.2879:" Medical Image Computing and Computer-Assisted Intervention - MICCAI 2003, Part II" (ISBN 3-540-20464-4), 92 Euro
- Vol.2488:" Medical Image Computing and Computer-Assisted Intervention - MICCAI 2002, Part I" (ISBN 3-540-44224-3)
- Vol.2489:" Medical Image Computing and Computer-Assisted Intervention - MICCAI 2002, Part II" (ISBN 3-540-44225-1)
- Vol.2208:"Medical Image Computing and Computer-Assisted Intervention - MICCAI 2001" (ISBN 3-540-42697-3)
- Vol.1935:"Medical Image Computing and Computer-Assisted Intervention - MICCAI 2000" (ISBN 3-540-41189-5)
- Vol.1679:"Medical Image Computing and Computer-Assisted Intervention- MICCAI'99 " (ISBN 3-540-66503-X)
- Vol.1496:"Medical Image Computing and Computer-Assisted Intervention - MICCAI'98 " (ISBN 3-540-65136-5)
- Vol.1205:"CVRMed-MRCAS'97" (ISBN 3-540-62734-0)
- Vol.1131:"Visualization in Biomedical Computing" (ISBN 3-540-61649-7)

## Computer-Integrated Surgery

<http://www-mitpress.mit.edu:80/mitp/recent-books/comp/taych.html>

58 archives of CAS, edited by Russell H. Taylor, Stephane Lavalley, Grigore C. Burdea, Ralph Moesges. *THE MIT Press, ISBN 0-262-20097-X*. \$125

## Medical Image Analysis

<http://www.elsevier.nl/locate/medima/>

A new journal for image analysis, pattern recognition, visualization, telemedicine, image-guided surgery etc. It is now published by *Elsevier Science*.

Newsweek "Surgery of the Future: The Ultimate Remote Control", pp.42-45, June 25, 2001

[http://www.msnbc.com/news/NW-front\\_Front.asp](http://www.msnbc.com/news/NW-front_Front.asp)

An overview of robotic surgery, including Zeus and da Vinci. The IRCAS Webmaster strongly suggests you to read Dr. Konner's comment on the page 45.

## Discovery.com

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

Discovery Communications Inc. is a worldwide media for scientific programs. Lots of CAS-related programs are available on [Discovery Health Channel](#).

## Tools

### VGL library

Volume Graphics

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

The VGL is the C++ graphics library which allows rendering of volume (voxel) data AND OpenGL objects in oen scene. The latest version is 3.2. Shadows of OpenGL objects can be projected onto the volume rendered object!

### Polaris

Northern Digital Inc.

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

Northern Digital manufactures optical 3D motion measurement systems known as Polaris, which is famous in surgical navigation researchers.

### Pixsys Flashpoint(TM)

Image Guided Technologies, Inc.

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

It is a 3D digitizer, and is used in several researches of image-guided surgery.

### AVS

Advanced Visualization System

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

AVS (Advanved Visualization System) is one of the famous scientific visualization softwares for medical images. It is easy to use, but requires amount of memory.

### Cave, etc

Nissho Electronics Visual Communication Division

<http://www.tradepia.or.jp/nevc/advanced/index-e.htm>

Products information related to virtual reality.

Superscape e-Visualizer

Superscape, Inc.

<http://www.superscape.com>

Virtual reality software for photorealistic fully interactive 3D objects on the web.

The Visualization Toolkit

Kitware Inc.

<http://www.vtk.org/>

A free library for three-dimensional visualization, including powerful "decimation" (reduce the number of polygons) function. Very portable (UNIX and Win32) and easy to use (C++ and Tcl/Tk). Version 4.2 is now available. To obtain the library, you'd better buy [a book with CD](#) rather than download from there.

## Samples

Sample CT/MR images and 3D models are [here!](#)

## Links

International Society for Computer Aided Surgery (ISCAS)

<http://www.iscas.org/>

SITE UNREACHABLE (2004/3/1)

"Our mission is to encourage all scientific and clinical advancement of computer-aided surgery and related medical interventions throughout the world."

International Society and Conference Series on Medical Image Computing and Computer-Assisted Intervention (MICCAI) **NEW!**

<http://www.miccai.org>

"An international society is to be created for the MICCAI community, which will have benefits including reduced rates for MICCAI conference registration and journal subscriptions." (from the site)

Japanese Society of Computer Aided Surgery (JSCAS)

<http://www.jscas.org>

The Japanese domestic society of CAS.

Society for Medical Innovation and Technology (SMIT) **NEW!**

<http://www.smit.de/>

Official journal: Minimally Invasive Therapy & Allied Technologies (MITAT)

MRCAS

<http://www.mrcas.ri.emu.edu/links.html>

This is an another list of research groups in CAS.

MedWeb: Virtual Reality in Medicine

[http://www.gen.emory.edu/MEDWEB/keyword/Virtual\\_reality\\_in\\_medicine.html](http://www.gen.emory.edu/MEDWEB/keyword/Virtual_reality_in_medicine.html)

A list of the sites related to virtual reality in medicine

Medical and Computer Web Collection

<http://www.prs.med.keio.ac.jp/schmed/webcol/index.htm>

A list of medical technology using computer, edited by Keio University

Medical Image Format FAQ

<http://www.dclunie.com/medical-image-faq/html/>

A FAQ list for a variety of medical image formats. You visit here first, if you do not know how to import your images into your computer. Latest version 4.28.

Webmaster:

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