



### *Scientific Development and Visualization Laboratory Newsletter*

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#### Introduction to the Laboratory

The Supercomputing Institute's Scientific Development and Visualization Laboratory (SDVL) is located at the Supercomputer Center, 1200 Washington Avenue South, and provides researchers access to workstations, tape drives, printers, a scanner, a CD writer, and a system for producing scientific videos. The SDVL has a mixture of IBM and SGI workstations. In the fall of 1999, the Institute purchased a 2-processor Octane workstation (**i7.msi.umn.edu**) with 2 GB of memory and a 2-processor IBM RS/6000 workstation (**a2.msi.umn.edu**) with 4.25 GB of memory.

The following table summarizes all UNIX workstations at the SDVL.

<u>NAME</u>	<u>TYPE</u>	<u>CPU INFO</u>	<u>MEMORY</u>
i1	Octane MXI	1 R10000 195 MHz	640 MB
i2	Indigo2	1 R10000 175 MHz	352 MB
i3	Indigo2	1 R10000 175 MHz	352 MB
i4	O2(For Videos)	1 R10000 175 MHz	256 MB
i5	Octane SSI	1 R10000 175 MHz	892 MB
i6	O2	1 R5000 195 MHz	160 MB
i7	Octane SSX	2 R12000 300 MHz	2 GB
i12	Onyx	2 R4400 150 MHz	256 MB
a1	RS/6000	2 604e 333 MHz	256 MB
a2	RS/6000	2 Power3 200 MHz	4.25 GB
a3	RS/6000	2 Power3 200 MHz	4 GB

In addition, the SDVL has a Macintosh G3 that is connected to a color scanner and an IBM Intellistation running Windows NT.

Background jobs must be run through the queuing system. For information on the queues, see:

[www.msi.umn.edu/sdvl/info/dqs](http://www.msi.umn.edu/sdvl/info/dqs)

For more information on the SDVL, see:

[www.msi.umn.edu/sdvl](http://www.msi.umn.edu/sdvl)

#### Video

The SDVL has hardware (an SGI O2 workstation) and software (Composer from Alias/Wavefront) to produce short videos. These videos can be put on VHS or S-VHS tape, or converted to quicktime movie files, or MPEG files for publishing on the web. For more information, see:

[www.msi.umn.edu/user\\_support/scivis/video/videotaping.html](http://www.msi.umn.edu/user_support/scivis/video/videotaping.html)

#### Access to Resources

Access to the Institute's workstation laboratories is available to faculty members of the University of Minnesota or other accredited institutions of post-secondary education in the state of Minnesota for themselves and their research groups. Access is provided on request to all researchers who apply for and receive competitively reviewed Supercomputing Institute supercomputer resource allocations. Access is also available by separate proposal. The review criteria for this program are available at:

[www.msi.umn.edu/general/Programs/review.html](http://www.msi.umn.edu/general/Programs/review.html)

Information about establishing a research project with access to the Scientific Development and Visualization Laboratory's resources, about adding new users to already existing projects, and reporting requirements for those participating in the Supercomputing Institute research programs are available on the web at:

[www.msi.umn.edu/general/Programs/obtain/sdvl.html](http://www.msi.umn.edu/general/Programs/obtain/sdvl.html)

or by contacting Michael Olesen, Research Programs Administrator, at (612) 624-1356 or [olesen@msi.umn.edu](mailto:olesen@msi.umn.edu).

## Software

The SDVL has a wide range of commercial and public domain software. For a complete listing of software at the SDVL, see:

[www.msi.umn.edu/sdvl/software](http://www.msi.umn.edu/sdvl/software)

The Supercomputing Institute purchases software as directed by the faculty steering committee. If you have suggestions, please contact Barry Schaudt at (612) 626-1765 or [schaudt@msi.umn.edu](mailto:schaudt@msi.umn.edu). Please note that the Institute does not purchase software for single individual principal investigators. Instead, the Institute tries to purchase software that will benefit a wide range of principal investigators, but individual recommendations are one way we learn which software is likely to be useful. The faculty steering committee for the Supercomputing Institute consists of:

Professor Thomas W. Jones, Astronomy, chair  
Professor Vaughan Voller, Civil Engineering  
Professor David Yuen, Geology and Geophysics

## Technical Information and User Support

The Technical Support Staff provides assistance with all aspects of scientific computing and visualization. This assistance includes—but is not limited to—general user support, writing and porting serial and parallel codes to the supercomputers, development of scripts or user-friendly procedures to allow more productive use of the supercomputing resources, assistance with visualization or communications, assistance with software packages, tutorials on specialized topics or programs, user training, code optimization, parallel model building support, and assistance with workstations used to develop code for the supercomputers.

Each member of the User Support Staff has a Ph.D., and in addition to assistance for all users, each can provide technical assistance in their area of expertise. The areas of expertise includes Computational Chemistry, Computational Fluid Dynamics, Structure Mechanics, Design Optimization, Structural and Molecular Biology, and Geophysics.

The technical support staff can visit your research group to brainstorm solutions to problems you may have encountered in supercomputing research or to assist in supercomputing technical details for proposals to the Institute.

You may contact the User Support Staff, by sending email to [help@msi.umn.edu](mailto:help@msi.umn.edu), calling 612-626-0802 Monday through Friday from 8:30am–5:00pm, or through the online form at:

[www.msi.umn.edu/consult.html](http://www.msi.umn.edu/consult.html)

### Laboratory Manager

Barry Schaudt ([schaudt@msi.umn.edu](mailto:schaudt@msi.umn.edu))  
Room 2045 SCC  
Monday–Friday (8:30–5:00)  
(612) 624-8861

### User Support staff

[help@msi.umn.edu](mailto:help@msi.umn.edu)  
(612) 626-0802  
[www.msi.umn.edu/consult.html](http://www.msi.umn.edu/consult.html)

### Web Page

[www.msi.umn.edu/sdvl/](http://www.msi.umn.edu/sdvl/)

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This information is available in alternative formats upon request by individuals with disabilities. Please send email to [alt-format@msi.umn.edu](mailto:alt-format@msi.umn.edu) or call 612-625-1818.

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