



## IN THE NEWS

### GVU Ranks Number 1 on National Survey

Less than 5 years after its founding in 1991, the GVU Center's PhD program has been ranked number one in the country in the area of Graphics: User Interaction. The *U.S. News & World Report* rankings, which appeared in the March 11 issue of the magazine, resulted from a 1996 survey of heads of graduate studies and department chairs in a variety of disciplines. Survey recipients were asked to rate institutions in their own

doctoral discipline based on the schools' reputation for scholarship, curriculum, and the quality of both the faculty and graduate students.

Georgia Tech holds sole possession of first place in Graphics: User Interface, a specialty area listed under the category of Computer Science (although not limited to Computer Science departments), followed by Brown University, Carnegie Mellon and UNC at Chapel Hill (tied for

2nd place), and Massachusetts Institute of Technology.

Georgia Tech's School of Industrial & Systems Engineering ranked number one for graduate programs in the Engineering specialty area of Industrial/Manufacturing Engineering; the College of Computing ranked 18th overall in Computer Science PhD programs. Both ISyE and CoC are affiliated academic units of the GVU Center. ♦

## OLYMPIC UPDATE

The summer of 1996 will bring the Olympic Games to Atlanta and Georgia Tech. With the Olympic Village at our doorstep, July and August will **not** be business as usual for the GVU Center. From July 1 through August 10, entry to campus will be restricted to accredited employees and essential visitors, parking will disappear, and there will be no classes. Therefore, many faculty and students will not be on campus during this period. Our administrative office may be staffed by only one person during much of this time; however, during the actual Games (July 18-August 4) the office will be closed. Many of us will be available via email, but we ask your patience and understanding during this unusual time. We all look forward to the return to normalcy in the fall. ♦

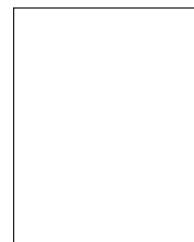
## FROM THE DIRECTOR

### A Farewell Message

I offer a deep and sincere "thank you" to everyone who has helped make the past five and a half years at Georgia Tech the most exciting and rewarding years of my professional life. During this time, the GVU Center has become a vibrant community of scholars working together with a common vision of making computers ever more useful to all of us as we work, play, learn, and communicate. The recent *U.S. News and World Report* ratings add a nice sense of closure, and represent a real testimonial to the hard work and dedication of our Center's faculty, students, and staff.

The real joy for me personally has been the way in which so many groups and individuals have pitched in to make GVU

happen. The faculty and students have worked hard to establish our sense of community, our



Jim Foley

sense of purpose, our research programs, our educational missions, and our service role. Georgia Tech and the

Tech Alumni helped fund our lab. The College of Computing, under Dean Peter Freeman, has administratively and physically housed our interdisciplinary center; we could not have had a finer, more nurturing home. A dedicated staff, led by Joan Morton, has provided the all-important glue to keep the pieces together and operating. The Georgia Tech administration—

See 'Foley' on page 3

## Inside:

- In the News ..... pg 1
- Olympic Update ..... pg 1
- From the Director ..... pg 1
- Presentations ..... pg 2
- Key to Acronyms ..... pg 2
- Web Survey News .... pg 3
- Kudos ..... pg 3
- Research Updates ... pg 4
- Industrial Affiliates .... pg 4
- Visitors ..... pg 5
- Coming Attractions ... pg 5
- Personnel Briefs ..... pg 6
- Demo Days ..... pg 6
- Alumni News ..... pg 7
- Lecture Series ..... pg 7
- Student Notes ..... pg 8
- GVU Information ..... pg 8



## Acronyms

### A key to Georgia TechTalk:

- CoC: College of Computing  
 FCE: Future Computing Environments  
 GTRI: Georgia Tech Research Institute  
 GVU: Graphics, Visualization & Usability  
 IAP: Industrial Affiliates Program  
 IDT: Information Design & Technology  
 IMTC: Interactive Media Technology Center  
 ISyE: School of Industrial & Systems Engineering  
 LCC: School of Literature, Communication & Culture  
 NSF: National Science Foundation  
 OIT: Office of Information Technology  
 ONR: Office of Naval Research  
 WWW: World Wide Web

### WWW Conference

Seven GVUers had papers or participated in panels at the 4th WWW Conference in Boston in December. The papers include:

- **Jim Pitkow** and **Colleen Kehoe** (CoC), "Results from the Third WWW User Survey."
- Eric Ayers and **John Stasko** (CoC), "Using Graphic History in Browsing the WWW."
- **Tomonari Kamba** (visiting researcher from NEC), **Krishna Bharat** (CoC) and **Mike Albers** (ISyE), "The Krakatoa Chronicle: An Interactive, Personalized Newspaper on the Web."
- Panelist: **Jim Pitkow**, "Visualizing the Web."

### Hypertext '96

Two GVU papers were presented at Hypertext '96 in Washington, DC, in March:

- "HyperCafe: Narrative and Aesthetic Properties of HyperVideo," by **Nitin "Nick" Sawhney**, **David Balcom** (LCC) and **Ian Smith** (CoC).
- "Browsing the WWW by Interacting with a Textual Virtual Environment: A Framework for Experimenting with Navigational Metaphors," **Andreas Dieberger** (postdoc in LCC/GVU).

### CHI '96

GVU was well represented at CHI '96 in Vancouver, BC:

- "Silk from A Sow's Ear: Extracting Usable Structure," P. Pirolli, **Jim Pitkow** (CoC) and R. Rao.
- "An Interactive, Personalizable Web-Newspaper," **Krishna Bharat** (CoC), **Tomonari Kamba** (visiting researcher from NEC), **Mike Albers** (ISyE).

- "Using Small Screen Space More Efficiently," **Tomonari Kamba**, **Shawn Elson**, **Terry Harpold** (LCC), T. Stamper and **Noi Sukaviriya** (formerly of CoC).
- "Do Algorithm Animations Help Students Learn?" **Richard Catrambone** (Psy), **John Stasko** (CoC) and Mike Byrne.

### VRAIS '96

The GVU Center's Virtual Environments group captured three of thirty papers at this year's IEEE Virtual Reality Annual International Symposium in San Francisco in April, leading all other labs. The papers are:

- "A Virtual Airplane for Fear of Flying Therapy," **Larry Hodges** (CoC), Barbara Rothbaum, **Ben Watson**, **Drew Kessler** (CoC), Dan Opdyke.
  - "A Network Communication Protocol for Distributed Virtual Environment Systems," **Drew Kessler**, **Larry Hodges** (CoC).
  - "The Virtual Annotation System," **Reid Harmon**, **Walter Patterson**, **Bill Ribarsky** (CoC) and **Jay Bolter** (LCC).
- Larry Hodges** is Program Chair for VRAIS '97.

### ED-MEDIA '96

**Larry Najjar** (PhD student, Psy) co-authored two papers that were accepted for publication in the proceedings of the ED-MEDIA '96 conference. The conference is sponsored by the Association for the Advancement of Computing in Education and focuses on the use of multimedia and hypermedia for educational purposes. The papers are titled "Building a Demonstration Multimedia Electronic Performance Support System" and "FAST: A New Research Paradigm for Training."

### CNIASE '95

**Ashwin Ram** (CoC) gave a plenary address at the National Conference on Artificial Intelligence, held in Puerto Ordaz, Venezuela, in October. His talk was titled, "Cognitive Multimedia Support Environments."

### HCIC

Students **Scott McCrickard** (CoC), **John Akers** (Psy) and **Jocelyn Ward** (LCC) attended the Human-Computer Interaction conference in Colorado.

### ICLS '96

Georgia Tech's EduTech Institute and GVU will be well represented at the International Conference of the Learning Sciences '96 to be held in Chicago this summer. Of the ten papers and posters accepted from Georgia Tech, five involved collaborations with and among GVU faculty/students. The papers are:

- "The Role of Student Tasks in Accessing Cognitive Media Types," Mike Byrne, **Mark Guzdial** (CoC), Preeth Ram, **Richard Catrambone** (Psy), **Ashwin Ram**, **John Stasko**, **Gordon Shippey** (CoC) and Florian Albrecht.
- "Simulated Environments for Learning Real-World Contexts in Chemical Engineering," **Mark Guzdial** and **Noel Rappin** (CoC).
- "Computer Science Apprenticeship: Creating Support for Intermediate Computer Science Students," **Amnon Shabo**, **Mark Guzdial** and **John Stasko** (CoC).
- "An Activity Framework for Fostering Reflection in Project-based Engineering Design Classes," **Jennifer Turns** (ISyE).

See 'Presentations' on page 5

GVU's 4th World Wide Web User Survey was the largest survey to date, receiving more than 23,000 responses and reaching an estimated one out of every 500 Web users (according to the FIND/SVP estimate of 9 million Web users). **Colleen Kehoe** and **Jim Pitkow** (CoC) presented the results of the latest survey at the 4th International WWW Conference in December. They summarized the latest findings and included new longitudinal analysis of the emergent trends in the Web user population. You can access the presentation and the survey results at the following URL: <[http://www.cc.gatech.edu/gvu/user\\_surveys](http://www.cc.gatech.edu/gvu/user_surveys)>.

The WWW Consortium's (W3C) Internet Surveying Methodology and Web Demographic Workshop (January 1996), recognized the pioneering efforts of GVU's survey team in discussing the new medium of Web-based surveying and Internet Demographics. Colleen and Jim presented an overview of the existing adaptive surveying architecture, the new Java surveying prototype, and longitudinal trends in the user population. Attendees of the workshop included representatives from such organizations as Nielsen, Arbitron, Gallop and others.

The surveys continue to gain positive attention from the popular media. On February 23, 1996, Jim Pitkow was the featured guest on the nationally syndicated radio program, "The Internet Today." Reaching an estimated 10 million households, the program explored surveying methodology, commercial uses of the Web and, of course, user demographics.

Colleen Kehoe and Jim Pitkow were featured in December, 1995 on the Canadian Discovery Channel's "Life on the Internet"

series, focusing on Internet demographics. The series has been picked up by PBS in the U.S. to begin airing in April, 1996.

**Note:** GVU's 5th WWW User Survey begins on April 10 and will run until May 10, 1996. The 5th Survey continues to push the edge of online surveying by featuring a set of multilingual questionnaires (French, German, and Japanese) and the adaptive surveying Java applet developed by Colleen Kehoe. The Java applet has been developed to improve the surveying interface and performance, and will run in parallel with the current CGI implementation. To participate, please access URL: <[http://www.cc.gatech.edu/gvu/user\\_surveys](http://www.cc.gatech.edu/gvu/user_surveys)> after April 10. ♦

## Foley...

past President Pat Crecine, President Wayne Clough, and Provost Mike Thomas—have provided encouragement, resources, and sage advice. Substantial equipment and research funding has come from our Industrial Affiliates (current members listed on page 4), other industrial friends including AT&T Global Information Solutions, BellSouth IntelliVentures, US WEST, Apple Computers, CNN, Jet Propulsion Lab, E-Systems, and Schlumberger; the Intel, Link, Packard and Sloan Foundations; and our government sponsors. Thanks to everyone.

I'll be rooting for y'all from Cambridge as I watch GVU continue to develop. And, when you visit up north, come see me: <[foley@merl.com](mailto:foley@merl.com)> or phone (617) 621-7500.

**Jim Foley, Director**

**Mark Guzdial** (CoC) is a recipient of a 1995 NSF Career Grant, which was created to promote public awareness of the program and NSF's efforts to foster science research and education. Mark studies new ways to use computer programming to improve engineering education, such as applying computers not only to industrial design but also to problem solving and abstract understanding of computer-based simulation. He has already designed two graduate courses based on this approach.

**Mark Guzdial** and **Larry Hodges** (CoC) were recipients of the 1995 College of Computing Faculty Appreciation Awards.

PhD candidate **Jim Pitkow** (CoC) has just had his eighth paper accepted in the International WWW Conference series, making him the most published author in the series. The most recent paper, "Supporting the Web: A Distributed Hyperlink Database System," coauthored by GVU alumnus Kipp Jones, was accepted in the 5th International WWW Conference to be held in Paris in May.

Students **Nick Sawhney**, **David Balcom** and **Ian Smith** won the first annual Engelbart Award for best paper at the Hypertext '96 conference in Washington DC at the end of March. "HyperCafe: Narrative and Aesthetic Properties of Hypertext," a collaborative effort among LCC, CoC, and GVU, was one of 24 papers accepted for the conference, and one of six nominated for the award. Named for Doug Engelbart, in recognition of his work and contributions in the field of hypertext and hypermedia, this award carries with it a \$1000 cash prize. ♦



## MS Program in HCI Planned

A faculty committee has been formed to recommend guidelines for an interdisciplinary Master of Science degree in Human-Computer Interaction, in response to a demonstrated need for designers with an interdisciplinary background—the kind of background that GVU provides to students through the resources of affiliated units such as Computing; Literature, Communication & Culture; Industrial Systems & Engineering; and Psychology.



## RESEARCH UPDATES/PROJECT NOTES

### IBM Funds Research on Visual Steering, Analysis

**Bill Ribarsky** and **Norberto Ezquerro** (CoC) have received funding from IBM to develop enhanced methods to support the exploration and analysis of complex systems and processes. Specifically, they will be investigating methods for steering large-scale, 3D, dynamic simulations and analyzing complex, discrete fields containing scalar (and higher dimensional) information. The underlying hypothesis of the research is that by employing interactive, intuitive methods to study this type of complex information, the user is better able to undertake the process of exploration and discovery.

The heterogeneous environment consists of a graphics workstation with a fast network connection to a parallel machine (SP-2), which has been donated

by IBM. They will be working with **Bernice Rogowitz**, **Lloyd Treinish** and **Bodhi Mukherjee** of IBM's T.J. Watson Research Center.

### HP Donates Equipment

Hewlett-Packard has made an equipment donation of \$197,337 to support the virtual environments research of **Larry Hodges** (CoC) and **Jay Bolter** (LCC). This is in addition to two earlier gifts from H-P.

### WWW User Surveys

After two years of being an unfunded, spare-time effort, GVU's WWW User Surveys entered into a combination research contract and licensing agreement with FIND/SVP. The research contract will help defray the costs incurred in the execution of the 5th WWW User

Survey, while the licensing of the first four datasets will help offset travel and other related expenditures for the survey team, PhD students **Jim Pitkow** and **Colleen Kehoe** (CoC). GVU is actively seeking licensing of the datasets and adaptive surveying code.

### Cave Data Study

**David Koller** (PhD student, CoC) received a small grant from the Speleological Society for a proposal entitled, "Interactive 3D Visualization of Cave Data." He will be studying appropriate visualization techniques for the analysis of data gathered from explorations and surveys of caves.

### Future Computing Environments

The Future Computing Environments (FCE) Group is working on developing a culture and infrastructure for the investigation, prototyping, and construction of the computing environments that they believe will be commonplace in 10-15 years. Since their start-up a year ago, CoC's **Gregory Abowd** and **Chris Atkeson** have assembled a group of students and researchers from CoC, GVU and OIT that meets weekly to discuss such topics as mobile/ubiquitous computing, future uses of the Web, and intelligent systems.

The FCE group has initiated four projects in the past year. **Cyberguide** is a prototype intelligent handheld position-aware tour guide that is currently used during GVU Demo Days and around the Georgia Tech campus. **Classroom 2000** is an attempt to introduce ubiquitous computing technology into the classroom in order to capture the

*See 'Research' on page 7*

### GVU Industrial Affiliates:

- Asea Brown Boveri
- Digital Equipment Corporation
- Hewlett-Packard Research Labs
- Hitachi Research Laboratory
- Intel Corporation
- Mitsubishi Electric Research Labs
- NEC Corporation
- Siemens AG
- Silicon Graphics, Inc.
- Sun Microsystems

### Associate Members

- Bentley Systems, Inc.
- ERDAS, Inc.

## INDUSTRIAL AFFILIATES

### Research Review Day

The 1996 Research Review Day was a successful day for everyone involved. IAP members received a broad overview of our research, plus more indepth demos in focus areas of their choosing. There was an opportunity to discuss the nuts and bolts of successful collaborations, and a chance to meet the students who are tomorrow's leaders in the fields of graphics, visualization and usability. The Industrial Advisory Board meeting offered an opportunity for discussion of current programs and future directions, along with ways of maximizing IAP participation and improving the Research Review Day program for next year.

The 1997 Research Review Day, which is open to all mem-

bers of our affiliated companies, will be held on February 6. The Industrial Advisory Board will meet on February 7. Look for more information in the Fall 1996 newsletter.

### Advisory Board Change

**Tom Christian** will replace **Fred Kitson** as the Hewlett-Packard representative on the Industrial Advisory Board.

### IAP Visitors

Members of two of our affiliate companies have joined GVU as visiting researchers for 1996. **Toshifumi Arai** (Hitachi) and **Mikiya Tani** (NEC) arrived late last year to work with GVU researchers on areas of mutual interest. ♦

## Presentations...

Also accepted was a poster, "Exploring Interface Options in Multimedia Educational Environments," **Gordon Shippey**, **Mark Guzdial**, **Ashwin Ram** (CoC), **Richard Catrambone** (Psy), **Florian Albrecht**, **Mike Byrne**, **Janis Roberts** and **John Stasko** (CoC).

ICLS '98 will be hosted by Georgia Tech.

### ONR Workshop

**Richard Catrambone** (Psy), **Mark Guzdial**, **Ashwin Ram**, and **John Stasko** (CoC) presented a paper earlier this year at the Office of Naval Research Workshop on Issues in Interactive Multimedia, which they also helped organize. The paper, "Task and Interface Issues in Accessing Cognitive Media," is coauthored by Mike Byrne, **Gordon Shippey** (CoC), **Florian Albrecht**, **Preeth Ram** and **Janis Roberts**. Richard, Mark, Ashwin and John are working on a 3 year \$382,046 joint Cognitive Science/GVU grant from ONR for using cognitive principles to design multimedia training environments to support learning.

### Winter Text Conference

**Richard Catrambone** (Psy) presented a paper, "Understanding Computer Algorithms: Animations Versus Text," coauthored by **John Stasko** (CoC) and Mike Byrne, at the Sixth Annual Winter Text Conference in Jackson Hole, Wyoming.

### Computers & Writing

**Terry Harpold** (LCC) had a paper at the 1996 Conference of the Mid-Atlantic Alliance for Computers and Writing: "Knowledge on the Screen: The Gaze and the Visible Interface." ♦

## VISITORS

### Nomad on the 'Net

High-tech nomad Steve Roberts visited GVU in October to talk about his adventures on BEHEMOTH (Big Electronic Human-Energized Machine... Only Too Heavy). Steve pedaled around the US on the computerized recumbent bicycle he designed specifically to support his travels while in constant communication with the Internet. Onboard resources included a Macintosh front-end, two DOS environments, distributed FORTH controllers and a SparcStation for CAD and mapping. The 580-pound bicycle included a heads-up display, handleboard keyboard, head mouse, helmet cooling, 105 speeds, a complete ham radio station, GPS satellite navigation, extensive security, a CD stereo system, speech synthesis and more. The machine was displayed during and after the talk to allow the members of the audience to examine it.

### Groups Hosted

Approximately 250 attendees of the Visualization '95 conference held in Atlanta visited the GVU Lab on October 31 as part of a special evening Demo Day.

A group from Achievement Rewards for College Scientists (ARCS) visited the GVU Lab on March 28. The organization, made up of professional women, offers scholarships to deserving students. They came to GVU to view educational technologies and other cutting edge research.

### Other visitors:

**Thomas Ball** of AT&T Bell Laboratories gave a talk in November entitled, "Tracking and Viewing Modifications on the Web."

**Ingolf Karls** (Siemens) visited with Larry Hodges, Bill Ribarsky, Norberto Ezquerra and Colin Potts in January.

**Jean Scholtz** of Intel visited with Al Badre (CoC) and our two visiting researchers, Mikiya Tani (NEC) and Toshifumi Arai (Hitachi). She was especially interested in the work the visitors are doing and their experiences at GVU.

In February three visitors from Sun Microsystems—**Bert Sutherland**, **Bob Sproull** and **John Hale**—visited with Larry Hodges and Bill Ribarsky.

**Don Coleman**, head of Systems and Computer Science at Howard University, and colleagues **Gary Harris** and **Todd Shurn** visited GVU and attended the IDT/GVU Demo Day on February 29. Howard is setting up a multimedia program, and the visitors wanted to see GVU's program. Dr. Coleman attended graduate school with GVU director Jim Foley.

**Jacki Morie**, Technical Training Manager for Disney Feature Animation Studios, made a stop at GVU on her recent recruiting trip. She gave a presentation on the Disney Studios and discussed job opportunities. GVU is currently well represented at Disney by two alumnae, Mary Ann Frogge Pigora and Heather Pritchett.

**Marc H. Brown** (of DEC's Systems Research Center) gave a talk during his March visit to GVU, entitled "Research at SRC in Web Browsing."

**Loren Miller**, Director of Tire Performance Modeling at Goodyear Tire and Rubber Company in Akron, Ohio, visited in March. He talked with Jessica Hodgins and Jim Pitkow, and toured the lab.

*See 'Visitors' on page 8*



## Coming Attractions

### New Web Pages

Watch for the all-new and improved GVU Web pages coming soon to a WWW browser near you. For the past two quarters we have been working on updating our Web pages for improved information access and a more sophisticated look and feel. We hope you like what we've done.



## Mark your Calendars

### 1996 Demo Days

- January 18, 1996
  - February 29, 1996 (held at LCC)
  - April 18, 1996
  - May 16, 1996
  - October 17, 1996 \*
  - November 14, 1996 \*
- \* tentative dates

Time: 1:30-4:00 pm  
 Place: Room 259, CoC

Need more info?  
 elaine@gvu.gatech.edu  
 404/894-9392

### Four New LCC Faculty

LCC has doubled its representation in GVVU with the addition of the following 4 faculty:

**Richard Grusin**, Associate Professor and Director of LCC's Undergraduate Studies, received his PhD in 1983 from the University of California, Berkeley. His current teaching interests include courses on multimedia and the history of electronic communication in the IDT Masters program. His current GVVU-related projects include a book on the visual and verbal representation of nature in 19th century America and a series of essays on the cultural and theoretical implications of information technologies. Richard says, "I joined the GVVU Center to learn about the latest work in computer graphics and visualization, and to try to contribute to GVVU a cultural and historical perspective." He will teach at Oxford this summer in the Georgia Tech in Oxford program.

Assistant Professor **Gregory VanHoosier-Carey** received his PhD from the University of Texas at Austin in 1995. His interests include electronic communication, visual information, computer-mediated pedagogy and cultural studies of information technology. His current research is directed toward investigating the impact of multimedia and hypermedia on traditional conceptions of "reading" and "writing" and developing teaching tools and methods that address that impact.

Assistant Professor **Matthew Causey** is particularly interested in digital video, interactivity and digital aesthetics. He teaches the IDT video courses and will help expand that aspect of the program to the undergraduate level.

**Anne Balsamo** is the director of the IDT masters program. Her

interest in multimedia development focuses on the exploration of how new technological forms enable new media genres, and particularly in the relationship between these new electronic media and traditional forms of mass media such as magazines, films, and television. Her most recent article, "Signal to Noise: On the Meaning of Cyberpunk Subculture," was published in the book, *Communication in the Age of Virtual Reality*. She also writes for *21-C*, a popular press magazine about contemporary technoculture.

### Two from Architecture

Professor **Chuck Eastman**, who has a joint appointment to Architecture and Computing, has developed a number of CAD systems and engineering databases, both as research prototypes and commercially. As a researcher in design, design theory, and design tools, Chuck looks forward to GVVU collaboration in the development of better design tools, from basic functionality through interaction mechanisms. His interests include geometric representations and algorithms, facilitating creative geometric design, addressing issues of complexity and coordination among groups of designers. He is currently working on a backend database supporting dynamic integration and integrity management of design information, supported by NSF.

**Jean Wineman**, director of the PhD program for the College of Architecture, has also joined.

### Shabo is New PostDoc

**Amnon Shabo**, an EduTech Postdoctoral Fellow, joined the GVVU Center in September '95. He received his PhD in Science Teaching at the Hebrew Univer-

sity of Jerusalem in 1994, where he developed HyperDiagram, a 'Customized Courseware Generator' aimed at cost-effective creation of programs to teach hormonal feedback mechanisms. His major project at GVVU is developing computer science multimedia courseware on the Web with Mark Guzdial and John Stasko. Also, he is collaborating with the Health & Performance Science Department to use the HyperDiagram program in its Human Anatomy and Physiology courses.

### Industrial Visitors

GVVU is the temporary home to two visiting researchers from Japan, both members of our Industrial Affiliates Program. **Toshifumi Arai** is from the Hitachi Research Laboratory (HRL) in Hitachi city, birthplace of Hitachi, Ltd. At HRL he has done research on human computer interaction, and a computer-augmented desk named InteractiveDESK. At GVVU, he is working with Scott Hudson to develop a computer-augmented system which helps people read books and take notes. Toshi enjoys being in Atlanta, and meeting the wide cross section of cultures that make up Georgia Tech. He rides a mountain bike on the weekends—the closest he can come to indulging his love of motorcycles here in the U.S.

**Mikiya Tani** came to GVVU from Osaka in Western Japan at the beginning of 1996. In Japan, he works for NEC's Kansai C&C Research Laboratories, developing effective human computer interfaces and designing the information system architectures of the next generation. His research group's goal is to develop an advanced information

See 'Personnel' on page 7



## Where are They Now?

**Lina Karam** has started a new job as an assistant professor in the electrical engineering department at Arizona State University in Tempe. Lina extends an invitation to all GVVU faculty and PhD students to visit and give a talk about ongoing work at GVVU or about their own particular research topic. She can be reached at <karam@asu.edu>.

**Steve Arnold** (PhD, '95) is working for Oracle in California. He is developing a product called Pro\*C, which embeds SQL in C and C++ programs. Steve reports that he is enjoying living in San Francisco very much.

**Steve Adelson** (PhD, '93) recently joined Loral Advanced Distributed Simulation (part of Lockheed-Martin) near Seattle as a Software Engineering Specialist. He is working on simulation for distributed and virtual environments for training.

**Sharon Davis** (MS, '95) returned to Atlanta in February to work for AT&T GIS in the Synthetic Environments group, where she is working on developing a neurosurgery telemedicine project incorporating video, medical visualization, case-based reasoning and telecommunications into one package. Prior to her recent move, Sharon worked at Ford Motor Company, in the Advanced Graphics Development group, developing in-house software to animate and visualize crash analysis data.

**Keith Edwards** (PhD, '95) is settled in as a post-doc at Xerox Palo Alto Research Center. In the next six months at PARC, Keith will be exploring computer-supported collaboration in the context of wireless nets, mobile computing and weakly-consistent distributed systems. He

can be reached via email at <kedwards@parc.xerox.com>.

**Warren Gardner** (PhD, '95) is working at K<sup>2</sup>T, a small company in Pittsburgh located in a 27,000 square foot restored steel mill. K<sup>2</sup>T is a robotics company that builds legged robots and laser scanning sensors. Warren is a project manager responsible for a \$5 million project producing 3D models from video image sequences. He is also involved in university collaboration with Takeo Kanade from CMU. Warren says it is a fantastic and challenging opportunity.

Among other 1995 grads: **Sougata Mukherjea** (PhD) is working for NEC C&C Research Lab in San Jose; **Martin Frank** (PhD) is in Marina del Rey working at the University of Southern California/Information Sciences Institute; **Paulo Santos** (PhD) is employed at AT&T Bell Labs in Middletown, New Jersey; **Jeyakumar Muthakumarasamy** and **Tom**

**Meyer** (MS) are at Silicon Graphics in California; **Dave Deitrich** (MS) is at Motorola in Chicago; and **Kip Jones** (MS) works at Harbinger Net Services in Atlanta. **Lara Catledge** (LCC), **Troy Surdick** (Psych), **Drew Kessler** and **Scott McCrickard** (CoC) received their MS degrees in 1995 and are currently enrolled in PhD programs at Georgia Tech and remain actively involved with the GVVU Center.

## Attention All Alumni...

If we haven't heard from you recently, send an update to <elaine@gvu.gatech.edu> for the newsletter. We don't want to lose track of anyone. And, in keeping with that theme, GVVU has added an Alumni Web page. If you have a Web site, please email your URL to us so that it can be included on our page. ♦

## Personnel...

sharing system. Mikiya has been researching and developing a natural language interface kit, multimodal interface, and user interface on a digital library. At GVVU, he is working with CoC's Gregory Abowd and Chris Atkeson on the Classroom 2000 project, developing an effective content-based searching method for course materials, lecture notes, and students notes. In his spare time, Mikiya is becoming an expert on SAKE—Japanese rice wine. He says that the lack of exceptional SAKE is his only complaint about Atlanta. ♦

## Research...

rich information exchange and make it easily available via the Web. CyberNag is a universal messaging system that aims to provide a general solution to route information of any form (email, fax, voice mail, snail mail, Web content, etc.) to a user in whatever output form is convenient (workstation, pager, PDA, phone, etc.). CyberDesk is an attempt to replace the desktop metaphor with that of an active browsing metaphor as provided by the Web with programming languages such as Java.

More information on these projects and the general FCE research effort, can be found at <<http://www.cc.gatech.edu/fce>>. ♦

## Mark your Calendars

### 1995-96 Distinguished Lecture Series

October 31, 1995  
**Fred Brooks**  
UNC

January 18, 1996  
**Stuart K. Card**  
Xerox PARC

April 18, 1996  
**Andrew Witkin**  
CMU

May 16, 1996  
**Craig Reynolds**  
SGI

Time:  
12:00 noon  
(reception 11:30 am)

Place:  
Room 102  
Pettit Building

Need more info?  
elaine@gvu.gatech.edu  
404/894-9392



## GVU Info:

*Eye on GVU* is published twice annually by the Graphics, Visualization & Usability Center at Georgia Tech.

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GVU Center  
Georgia Institute of Technology  
Atlanta, GA 30332-0280

404-894-4488 (4-GVU)  
404-894-0673  
gvu-info@cc.gatech.edu

URL:  
<http://www.cc.gatech.edu/gvu/gvutop.html>

## GRAD STUDENT NOTES

### Training '96

**Larry Najjar** (PhD student, Psych) was part of a team that demonstrated a prototype wearable computer and an electronic performance support system (EPSS) at the Training '96 conference in Atlanta. The systems are being built by GTRI's Multimedia in Manufacturing Education lab. The wearable computer includes a small CPU worn on a waist belt, a head-mounted display for viewing information, a microphone for entering voice commands, earphones for hearing audio from the computer, and a wireless local area network for sending and receiving data. The EPSS is multimedia software that includes steps for performing a task, support for correcting mistakes, and extensive background information. Together, the wearable computer and EPSS

allow mobile workers, such as poultry plant quality assurance inspectors or telephone company line workers, to get training and task support information when they need it, where they need it.

### German Student Completes Year at GVU

**Dietmar Aust**, Master's student from the University of Dortmund, Germany, completes his time at GVU on April 20. He worked with **Gregory Abowd** (CoC) and Chris Atkeson on future computing environments (particularly the Cyberguide and Classroom2000 projects). Most recently, he has been working on his thesis with **Scott Hudson** (CoC) and visiting researcher **Toshifumi Arai** (Hitachi). He will soon be moving on to a new job with Xerox PARC. ♦

## Visitors...

Schlumberger's **Lee Metrick** visited on April 1 and gave a talk entitled, "Extending CGM to Plot Real-Time Well Logs."

**John Staudhammer**, Program Director of Systems Prototyping and Fabrication, Microelectronic Information Processing Systems of the National Science Foundation visited the lab during April.

**Keith Andrews** of Graz Institute of Technology (Austria) gave a talk on "Hyper-G: The Next Generation Web Solution" in April. ♦

## PERSONAL BEST

**Richard Catrambone** (Psy) reports that he is now ranked #6 in the state of Georgia in tennis in the men's 35-and-over division. ♦

GVU Center  
Georgia Institute of Technology  
Atlanta, Georgia 30332-0280  
USA