businesses residing within a university community. Those that administer cart labs need to consider carefully the function of the lab within the university setting. Is it a service department akin to a library or computer center, whose primary functions are to provide hands-on experience for students and low cost graphics in support of faculty research, or is it a self-supporting business? In the latter case especially we recommend that lab managers compare the pricing levels of local graphic artists for comparable products and set more competitive billing policies. We do feel that in general cart labs are underselling their services and that until more reasonable billing policies are generally adopted cart lab managers will not be accorded the recognition which their academic training and skills would seem to warrant.

Since we sent out our questionnaires tremendous changes have occurred in the availability of graphic software and hardware that is certain to have a substantial impact on the cart lab. Desktop mapping as described by Mattson (1989) in an earlier issue of this journal clearly has advantages, both in cost and in quality, that will undoubtedly attract the attention and influence the decision-making of cart lab managers in the future. Conventional production techniques for producing small-format maps will be supplanted by automated desktop mapping techniques. Cart lab managers will have to face the issue of whether or not to maintain their darkrooms which desktop mapping renders practically obsolete. Conventional production techniques as well as darkrooms will continue to be cost-effective for larger format maps (i.e. those over 11 by 17 inches) until size constraint are no longer a limitation. In general, desktop mapping will force lab managers to decide which services are essential and cost-effective and will greatly influence which mix of skills will be required for future cart lab managers. Q)

UNIVERSITY STAFF CARTOGRAPHERS AND CARTOGRAPHIC LABORATORIES
compiled by Ellen R. White,
Michigan State University

Thomas L. Nash, Director
Deborah P. King, Supervisor
Laboratory for Cartographic & Spatial Analysis
321 Carroll Hall
The University of Akron
Akron, Ohio 44325
(216) 375-7620

Craig Remington
Supervisor, Cartographic Lab
Department of Geography
University of Alabama
University, Alabama 35486
(205) 348-1536

Geoffrey A. Lester
Faculty Service Officer
Department of Geography
University of Alberta
Edmonton, Alberta T6G 2H4
Canada
(403) 492-3274

Barbara Trapido
Staff Cartographer
Department of Geography
Arizona State University
Tempe, Arizona 85287
(602) 965-7449

Robert Brewer
Staff Cartographer
Department of Geography
Ball State University
Muncie, Indiana 47306
(317) 285-1776

Eliza McClennon
Staff Cartographer
Department of Geography
Boston University
48 Cummings Street
Boston, Massachusetts 02215
(617) 352-2836

Cherie Semans
Department Cartographer
Department of Geography
501 Earth Sciences Bldg.
University of California
Berkeley, California 94720
(415) 234-0581

Chase Langford
Staff Cartographer
Department of Geography
University of California – Los Angeles
Los Angeles, California 90024
(213) 206-8188

David L. Lawson
Lecturer and Staff Cartographer
Department of Geography
University of California – Santa Barbara
Santa Barbara, California 93106
(805) 961-2003

Dr. Eugene J. Turner
Department of Geography
California State University – Northridge
Northridge, California 91330
(818) 885-3352

Christine E. Earl
Cartographic Technician
Number 5, Spring 1990
cartographic perspectives

Department of Geography
Carleton University
Ottawa, Ontario K1S 5B6
Canada

Brian Urbaszewski
Cartographic Laboratory
Committee on Geographical Studies
University of Chicago
5828 S. University Avenue
Chicago, Illinois 60637-1583
(312) 702-8305

Dr. Laurence G. Wolf
Cartography Laboratory
Department of Geography
University of Cincinnati
Cincinnati, Ohio 45221
(513) 556-343

Anne Gibson
Cartographer and Laboratory Manager
Graduate School of Geography
Clark University
Worcester, Massachusetts 01610
(508) 793-7337

Dr. Thomas C. Meierding
Cartographic Laboratory
Department of Geography
University of Delaware
Newark, Delaware 19711
(302) 451-2294

James R. Anderson, Jr.
Associate in Research
Florida Resources and Environmental Analysis Center
Florida State University
Tallahassee, Florida 32306
(904) 644-2883

Paul R. Stayert
Cartographer
Department of Geography
University of Florida
Gainesville, Florida 32611
(904) 392-0494

Jeff McMichael
Staff Cartographer
Department of Geography
Georgia State University
Atlanta, Georgia 30303
(404) 651-3232

James D. Ingram
Cartographic Shop Manager
Department of Geography
University of Georgia
Athens, Georgia 30602
(404) 542-4044

Dr. Everett A. Wingert
Cartographic Laboratory
Department of Geography
University of Hawaii at Manoa

Porteus Hall, Room 445
Honolulu, Hawaii 96822
(808) 948-7672

Barbara Mullin
Director, Cartographic Lab/Lecturer
Department of Geography and Geology
Hunter College
695 Park Avenue
New York, New York 10021
(212) 772-4273

Alan Jokisarri
Director, Cart-O-Graphics Laboratory
Department of Geography
University of Idaho
Moscow, Idaho 83843
(208) 885-6625

Jill F. Thomas
Staff Cartographer
Department of Geography-Geology
Illinois State University
Normal, Illinois 61761
(309) 438-8403

Jane Domier
Instructor
Department of Geography
University of Illinois
607 South Mathews
Urbana, Illinois 61801
(217) 333-1880

Raymond A. Brod
Cartographer
Department of Geography
University of Illinois at Chicago
P.O. Box 4348
Chicago, Illinois 60680
(312) 996-3112

Norm Cooprider
Department of Geography-Geology
Indiana State University
Terre Haute, Indiana 47809
(812) 237-2444

John M. Hollingsworth
Departmental Cartographer
Department of Geography
Indiana University
Bloomington, Indiana 47405
(812) 335-6265

Blake McCully
Staff Cartographer
Department of Geography & Regional Planning
Indiana University at Pennsylvania
Indiana, Pennsylvania 15705
(412) 357-2250

Barbara Shortridge
Staff Cartographer
Department of Geography and Meteorology

University of Kansas
Lawrence, Kansas 66045
(913) 864-3420

Alan Woods
Director, Cartographic Laboratory
Department of Geography
Kent State University
Kent, Ohio 44240
(216) 672-2045

Gyula Pauer
Cartographic Laboratory Director
Department of Geography
University of Kentucky
Lexington, Kentucky 40506-0027
(606) 257-2931 x4745

Mary Lee Eggart
Staff Cartographer
Department of Geography & Anthropology
Louisiana State University
Baton Rouge, Louisiana 70803
(504) 388-6248

J. Louis Marin
College of Forest Resources
University of Maine
250 Nutty Hall
Orono, Maine 04469
(207) 581-2854

Perry S. Wood
Bureau of Planning & Cartographic Services
Department of Geography
Mankato State University
Mankato, Minnesota 56001
(507) 389-2817

Vivre Komanoff
Director
Cartographic Services Laboratory
Department of Geography
University of Maryland
College Park, Maryland 20742
(301) 454-2564

Joel R. Miller
Office of Cartographic Services
Department of Geography
University of Maryland Baltimore County
5401 Wilkens Avenue
Baltimore, Maryland 21228
(301) 455-3843 x2002

Roy Doyon
Cartographic Laboratory Manager
Department of Geography-Geology
University of Massachusetts
Amherst, Massachusetts 01003-0026

Abal Sen
Department of Geography
McGill University
Montreal, Quebec H3C 3G1 Canada
(514) 398-4951
John D. Ottini  
Staff Cartographer  
Department of Geography  
McMaster University  
1280 Main Street West  
Hamilton, Ontario L8S 4K1  
Canada  
(416) 525-9140  

Dr. Clifford T. Wood  
Director, Cartographic Laboratory  
Department of Geography  
Memorial University of Newfoundland  
Elizabetl Avenue  
St. John's, Newfoundland A1B 3X9  
Canada  
(709) 737-8988  

Charles T. Traylor  
Cartographic Services Laboratory  
Department of Geography  
Memphis State University  
Memphis, Tennessee 38152  
(901) 678-2386  

Ted Burr  
Cartography Laboratory  
Department of Geography  
Miami University  
Oxford, Ohio 45056  
(513) 529-5010  

Ellen R. White  
Cartographic Coordinator  
Department of Geography  
Michigan State University  
East Lansing, Michigan 48824  
(517) 355-4638  

Gregory Chu  
Department of Geography  
University of Minnesota  
414 Social Sciences Building  
Minneapolis, Minnesota 55455  
(612) 625-0892  

Marvin Barton  
Carto-Graphics Lab  
Department of Geography  
University of Nebraska – Omaha  
Omaha, Nebraska 68182  
(402) 554-2662  

Laboratory for Cartographic and Spatial Analysis  
Department of Geography  
New Mexico State University  
Las Cruces, New Mexico 88003  
(505) 646-2708  

Greg Theisen  
Staff Cartographer  
Department of Geography  
State University of New York- Buffalo  
Amherst, New York 14260  
(716) 636-2722  

Richard C. Smith  
Staff Cartographer  
Department of Geography  
University of North Carolina  
Chapel Hill, North Carolina 27599-3220  
(919) 962-8901  

Jefferson L. Simpson  
Lecturer and Staff Cartographer  
Department of Geography and Earth Sciences  
University of North Carolina at Charlotte  
UNCC Station  
Charlotte, North Carolina 28223  
(704) 547-2293  

Floyd C. Hickok  
Department of Geography  
University of North Dakota  
Grand Forks, North Dakota 58202  
701-777-4246  

Richard P. Vaupel  
Laboratory for Cartographic and Spatial Analysis  
Department of Geography  
Northern Illinois University  
DeKalb, Illinois 60115  
(815) 753-6831  

Dr. J. Pat Farrell  
Director, Cartographic Laboratory  
Department of Geography  
Northern Michigan University  
Marquette, Michigan 49855  
(906) 227-2536  

Dr. Hubertus L. Bloemer, Director  
Catherine M. Steiner, Cartographer-Artist  
Cartographic Center  
Department of Geography  
Ohio University  
Athens, Ohio 45701  
(614) 593-1150  

Gayle Maxwell  
Director, Cartography Service  
Department of Geography  
Oklahoma State University  
Stillwater, Oklahoma 74078  
(405) 744-6250  

Dr. A. Jon Kimerling, Director  
Fred Weston, Manager  
Department of Geography Cartography Service  
Oregon State University  
Corvallis, Oregon 97331  
(503) 737-3141  

Dr. William G. Loy  
Cartography Laboratory  
Department of Geography  
University of Oregon  
Eugene, Oregon 97403  
(503) 686-4970  

David DiBlase  
Associate Director  
Deasy GeoGraphics Laboratory  
Department of Geography  
Penn State University  
University Park, Pennsylvania 16802  
(814) 863-4562  

Dr. Henry W. Castner  
Department of Geography  
Queen’s University  
Kingston, Ontario K7L 3N6  
Canada  
(613) 545-6030  

Michael Siegol  
Cartographic Laboratory  
Department of Geography  
Lucy Stone Hall, Kibler Campus  
Rutgers University  
New Brunswick, New Jersey 08903  
(201) 932-4054 x4128  

Dr. Benjamin Richason, Director  
Cartographic Laboratory  
Department of Geography  
St. Cloud State University  
St. Cloud, Minnesota 56301  
(612) 255-3160  

Barbara Aguado  
Staff Cartographer  
Center for Cartographic and Geographic Research  
San Diego State University  
San Diego, California 92182  

Ray B. Squirrell  
Chief Cartographer  
Department of Geography  
Simon Fraser University  
Burnaby, British Columbia V5A 1S6  
Canada  
(604) 291-3321  

Jerry Ulrey  
Department of Geography  
University of South Carolina  
Columbia, South Carolina 29208  
(803) 777-6746  

D. Michael Kirchoff  
Staff Cartographer  
Department of Geography  
Syracuse University  
Syracuse, New York 13210  
(315) 443-3937  

Mark Mattson  
Cartographic Laboratory Manager  
Department of Geography  
Temple University  
Philadelphia, Pennsylvania 19122  
(215) 787-7692.
CORRIGENDUM

Last issue’s Cart Lab Bulletin Board item ‘The placement of points in FreeHand paths’ contained a misstatement. According to Wes Lem of Adobe Systems Inc., it is not true that “[n]ew versions [of Adobe Illustrator 88] for UNIX platforms (NeXT and Sun) have also been announced.” In fact, a version is under development for the NeXT computer, but Adobe currently has no such plans for the Sun.

fugitive cartographic
literature

Interesting articles about cartographic information often appear in unexpected outlets. The goal of this section is to bring those publications to the attention of our readership. We invite synopses of papers appearing in journals other than those devoted to cartography, geography, and map librarianship.


This article is a case study of the application of artificial intelligence techniques in answering geographical queries typically associated with Geographic Information Systems (GIS). The authors describe a system that can answer fairly complex queries through output map displays illustrating pertinent information.

The paper begins with an introduction to GIS and its terminology. The introduction mentions several applications of GIS briefly to indoctrinate an audience not generally familiar with maps or GIS. A discussion of data models, based entirely on Donna Pequet’s 1984 paper, ‘A Conceptual Framework and Comparison of Spatial Data Models’, is very basic to familiarize the reader with the notion that there are alternative data representations that may be selected for various tasks. At the end of the