NDSU DEPARTMENT OF COMPUTER SCIENCE AND OPERATIONS RESEARCH

ANNUAL REPORT 2000–2001

Primary Contact:
Dr. Kendall E. Nygard, Chair
Kendall_Nygard@ndsu.nodak.edu

I. Departmental Profile

During the 2000-01 academic year, the Department of Computer Science and Operations Research had eleven full-time tenure-track faculty. Two of these faculty, Assistant Professor Kevin Van Horn and Associate Professor Akram Salah, were replacement faculty, newly hired at NDSU. In addition, Assistant Professor Victor Shi was newly hired and held a joint appointment with 45% in Management Information Systems in the College of Business, and 55% in Computer Science. The joint appointment that the department has previously held with the Department of Electrical and Computer Engineering is currently not filled. During 1998-99 and again in 1999-00 the department employed a PhD holding Assistant Professor on a term appointment basis with primary responsibility in teaching. During 2000-01 the was no such term appointment, a situation that necessitated hiring an adjunct professor (Mark Pavicic) and an adjunct lecturer (Janet Olfert) to teach courses, and to cancel several courses. Yet, departmental productivity in teaching increased significantly. During 1999-00 the department taught 12,798 student credit hours and generated 20.22 FTE. During 2000-01 this increased to 13,728 student credit hours and 22.56 FTE, an increase of 7.27% in student credit hours and 11.57% in FTE generation. The department needs additional teaching resources to copy with this heavy load.

The Department offers B.A., B.S., M.S. and Ph.D. degrees. National accreditation in Computer Science was first offered by the Computer Science Accreditation Board in 1985. The B.S. in Computer Science earned national accreditation in the first year, and has held this status continuously ever since. New programs are under development or being explored. Under federal funding, the department is actively planning and developing a Master's degree program in electronic commerce, joint with the College of Business. A new program in software engineering is also in the planning stages, with one new course offered this fall. Finally, conversations with Nortel Networks Inc are underway, exploring the possibility of expanding departmental programs and offerings in computer networks, particular those based on optical technology.

Two of the tenured faculty concentrate on teaching and service, and the others are active in both teaching and research. The normal teaching load for faculty with a research program is three courses per year (usually two in one semester and one in the other). Most faculty members teach at both the undergraduate and graduate level each year. There are five to six 1-credit seminar courses, each semester which are not counted in teaching loads. These seminars are specifically in the research areas of the faculty who lead them. Classes required for the computer science degree programs are taught only by faculty with a Ph. D. degree, and are normally held to an enrollment of forty or less, due to accreditation guidelines.

Departmental faculty attract significant external funding for research. In 1998-99 funding for new research projects totaled approximately $250,000. In 1999-00 this increased to $644,347. In 2000-01 this increased to $2,971,060, of which $1,940,000 is a five-grant acquired by Brian Slator and his research team for work in synthetic environments for teaching. Active multi-year projects in 2000-01 that were carried over from previous years totaled $1,902,439. Thus, newly funded projects were again significantly up in 2000-01, but the total funding including carryover projects remained about the same as in the last two years. Major sources of funding include the National Science Foundation, NASA, Air Force Office of Scientific Research, and Microsoft Great Plains Software. Each research faculty member is expected to regularly apply for

external funding. Faculty regularly publish in refereed journals and other media. The department benefits from the university being a charter member of Internet2 and from connectivity to the National Science Foundation vBNS network. CS department faculty have assisted with these efforts. All faculty have access to the campus ethernet backbone in their offices. Most segments of the network now have 100 megabit bandwidth. Departmental faculty have been instrumental in developing multiple Beowulf clusters for supercomputer performance, both in the department and within ITS.

Departmental major areas of research activity include distributed database management systems, educational technology and synthetic environments, image processing, pattern recognition, subsymbolic artificial intelligence, software engineering, and military applications of operations research. There are approximately one-hundred M.S. students, and twenty and nineteen Ph.D. students. An effort is being made to modify these proportions so that there are more Ph.D. Students relative to Masters. Each research-oriented faculty member has a laboratory in addition to an office.

Faculty, Lecturer's and Special Appointments Profiles

Dr. D. Bruce Erickson, Associate Professor and Undergraduate Program Coordinator
PhD, Yale, 1973

Dr. Erickson teaches courses in programming, data structures and data abstraction, discrete mathematics for computer science, files for database systems, and mathematical foundations of programming. As undergraduate program coordinator, Dr. Erickson serves on the undergraduate curriculum committee, advises on transfer course equivalencies, ensures that national accreditation principles are followed, and makes recommendations on scholarship recipients. He led the conversion to the Java language for the CS major in the Fall of 1999.

Dr. Ahmed Kamel, Assistant Professor
PhD, Michigan State University, 1994

Dr. Kamel teaches courses in artificial intelligence, programming languages, computer science foundations, and assembly language programming. He also coaches the undergraduate major

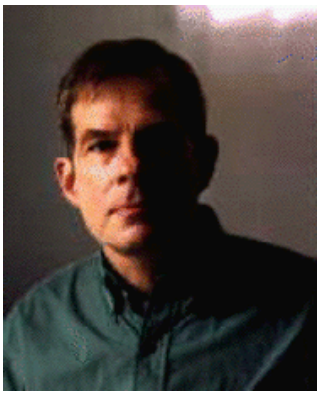
programming team, and volunteers his time to work with elementary and secondary teachers and students in computing education. He has applied a variety of artificial intelligence techniques to management of grain farming operations. He is currently carrying out research in software agent architectures.

Dr. Paul Juell, Associate Professor
PhD, Ohio State University, 1981

Dr. Juell is interested in Artificial Intelligence and Multimedia for education. He has built a neural network system that can identify images and faces they have seen before. He has developed a set of networks that can learn about new words as they are encountered. He is also working with new ways to use computer media in the classroom. He is now working with video conferencing uses in the classroom, including the remote 2000 project for synchronous delivery of courses over the internet.

Dr. Ken Magel, Professor
PhD, Brown University, 1977

Dr. Magel has teaching interests in problem solving, software engineering, computer graphics, and programming languages. His software engineering research activities explore what makes programming difficult and programs complex. He has published widely in the computer science literature. Dr. Magel consults with Great Plains software in C# and .net technologies.



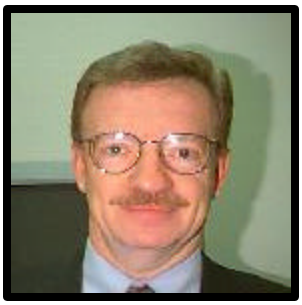
Dr. John Martin, Associate Professor and Graduate Program Coordinator
PhD, Rice, 1971

Dr. Martin has in recent years taught the introductory undergraduate computer science sequence, theoretical computer science, algorithm analysis, and computational complexity. His interests are in theoretical computer science, particularly formal languages and automata theory and computational complexity. He has recently completed a second edition of his textbook, Introduction to Languages and the Theory of Computation, which is part of the McGraw-Hill Series in Computer Science. The book is widely adopted for use in universities around the country. In the department, Martin serves as freshman advisor and graduate coordinator.

Dr. Kendall E. Nygard, Professor and Departmental Chair
PhD, Virginia Polytechnic Institute and State University, 1978

Dr. Nygard teaches courses in simulation, mathematical modeling, network optimization, systems analysis and design, and software testing and maintenance. His research interests include software systems for military mission planning for cooperative control of autonomous aircraft systems, software agents, simulation modeling of Asynchronous Transfer Mode (ATM) networks, and geographic information systems (GIS) for school transportation. Primary sponsors of Nygard's research are the Air Force and Navy. He has served as the faculty representative on the State Board of Higher Education and Presiding Officer of the NDSU University Senate.

Dr. William Perrizo, Professor
Ph.D., University of Minnesota, 1972



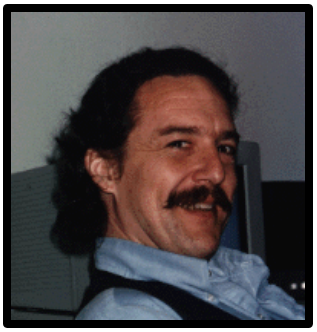
Dr. Perrizo teaches courses in database systems, simulation, distributed systems (especially over ATM networks), programming, social implications of computers and systems analysis and design. His research interests include database and information systems, data mining, data warehousing, distributed database systems, ATM networks, all optical networks, active networking, precision agriculture, and remotely sensed data management and visualization. Perrizo's research has been funded by the National Science Foundation, Air Force, DARPA, IBM, ATT, Great Plains Software, Racing Services Inc., NASA, Hughes and US West. He has served on over 50 committees at all levels. Perrizo has served as Interim Dean of Research Administration and Acting Special Assistant to the Vice President for Technology. He currently chairs the Information Technology Roundtable on campus.

Akram Salah, Associate Professor
PhD, University of Alabama at Birmingham 1985

Dr. Salah taught CS160 – Computer Science I, and CS315 - Systems Analysis and Design. He is taking the lead in the department to develop new courses in software engineering and to develop curriculum in that area.

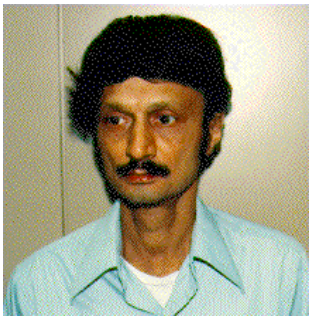
Victor Shi, Assistant Professor
PhD, Peking University, 1996

Dr. Shi taught CS161 – Computer Science II and CS366 - Files and Database Systems. Dr. Shi's research interest is in Database systems and networks, and he holds a new patent for database management



Dr. Brian M. Slator, Associate Professor
Ph.D., New Mexico State University, 1988

Dr. Slator teaches courses in artificial intelligence (AI), multimedia educational systems, computer science problem solving, and introductory computer programming. His research interests include case-based reasoning in education and performance support, knowledge representation, multimedia systems, distance education, synthetic environments, software agents, and multi-user educational games. Prior to joining NDSU in 1996, he was an AI researcher and project manager at the Institute for the Learning Sciences at Northwestern University. He currently supervises students working in the areas of educational multimedia, synthetic environments, and educational games. At NDSU he is a member of the Worldwide Web Instructional Committee (WWWIC), two working subcommittees of the Information Technology Roundtable (ITR), the Geology Explorer project (in collaboration with the NDSU Geoscience department), and the Polymer Tutor project (in collaboration with the NDSU Polymers and Coatings department). Dr. Slator is the current recipient of the Ernest L. Boyer International Award for Excellence in Teaching, Learning and Technology



Dr. Vasant Ubhaya, Professor
Ph.D., University of California, Berkeley, 1971

Vasant Ubhaya teaches courses in Discrete Mathematics, Algorithm Analysis, Performance Evaluation, Mathematical Programming, Software packages and Visual Basic. He does research in Algorithms, Optimization and Approximation, and publishes his results regularly in journals. He is often invited by professional societies to organize and chair sessions, and give talks at their meetings. His research has been supported by the National Science Foundation and EPSCoR.

Kevin VanHorn, Assistant Professor
PhD, Brigham Young University, 1994

Dr. VanHorn taught CS 161, Computer Science II and CS 474, Operating Systems Concepts. Dr. VanHorn's research interests are in mathematical and computational methods for speech recognition.

LECTURER'S

Ms. Dana Johnson, Senior Lecturer
MS, University of Denver, 1980

Ms. Johnson teaches introductory courses in application software (currently Office97) and programming languages including Visual Basic, COBOL,and Java. She is developer of a new intermediate course in Visual Basic and an online course in electronic commerce.

Mr. Abul Sheikh, Lecturer
MS, North Dakota State University, 1990

Mr. Sheikh joined the staff as a full time lecturer in the Fall of 1997. He teaches courses in application packages, programming in COBOL, and computer science problem solving. He is also working on his Ph. D. degree in computer science. Before coming to NDSU, Abul taught computer science in the University System of Georgia for six years.

SPECIAL APPOINTMENTS

Anup Dargar, Adjunct Lecturer
MS, Moorhead State University, 1998

Anup Dargar taught CSci 373, Assembly Programming, during 2000-01. He will be a full time lecturer in 2000-01.

Anne Denton, Adjunct Lecturer
PhD, University of Mainz, Mainz, Germany 1996
In Theoretical Physics

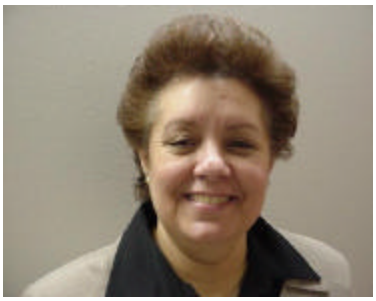
Anne Denton taught two sections of CSci 160, Computer Science I, in Fall, 2000

Ms. Janet Olfert, Adjunct Lecturer
MS, Northeast Louisiana University, 1984

Janet Olfert taught 2 sections of CS125, Cobol Programming, in the Spring 2001 semester. Ms. Olfert will be a full-time lecturer during the 2000-01 academic year.

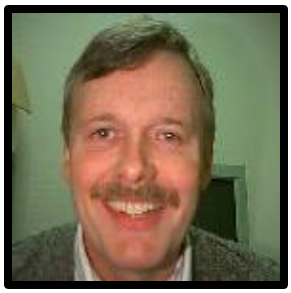
Dr. Mark Pavicic, Adjunct Professor
PhD, Columbia University, 1985.

Dr. Mark Pavicic continues an affiliation with the department as an Adjunct Professor. He has taught courses on File Organization, Software Engineering, Advanced Computer Graphics, Digital Computers I & II, and High-Performance Computer Architectures. During the fall of 2000 he taught CSci 315, Systems Analysis and Design. His research includes algorithms for computer graphics, including work on three-dimensional volume rendering.



Shura Shawky Salah, Adjunct Lecturer
University of Alabama - Birmingham

Shura Shawky Salah taught CS316 Systems Testing and Maintenance in the Spring 2001 semester.



Dr. Robert C. Gammill, Professor Emeritus of Computer Science and Computer Engineering.
PhD, MIT, 1969

Dr. Gammill taught at the University of Colorado, then worked for the Rand Corporation, and joined the NDSU faculty in 1978. He held a joint appointment with the Computer Engineering option in the EE Department for 12 years. Teaching activities include assembly language, computer architecture and organization, operating systems, and local area networks. He developed the computer networks course at NDSU and taught it for 18 years. He brought UNIX to North Dakota in 1978 and has been a primary teacher of UNIX and C since that time. Dr. Gammill retired in the spring of 1998 and assumed professor emeritus status.

I. GOALS/ACCOMPLISHMENTS 2000-2001

COMPUTER SCIENCE DEPARTMENT GRANTS AND CONTRACTS, PART 1
PROJECTS INITIATED PRIOR TO JULY 1, 2000, AND CONTINUING INTO THE DECEMBER 31, 2000 TIME PERIOD

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
10-00 to ----	1556	Juell	Tech Fee Project	EPSCoR	$8,270

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
5-1-00 to 5-15-01	4607	Kamel	Leveraging Integrated Expert Systems	NSF	$14,406
9-1-99 to 4-30-01	4792	Kamel	Epscor start up package	EPSCoR	$36,104
3-00 to 8-01	---	Nygard,	Internet II, REU program	NSF	$4,000
5-1-00 to 4-30-02	---	Nygard,	EPSCoR faculty startup grant	Great Plains Software	$39,000
To 4-30-01	1544	Nygard,	Student Tech Fee	EPSCor	$11,790
1-1-00 to 7-00	4245	Nygard	Mission Planning for Un-piloted Aerial Vehicles	NASA	$22,185
5-1-98 to 4-30-01	4399	Nygard	Derive Specifications From Informal Object-Oriented Specification	Office of Naval Research	$323,629
4-1-00 to 3-31-03	4585	Nygard,	Agent Architecture and Autonomous Aircraft	Office of Naval Resarch	$343,993
11-14-97 to 11-13-00	4967	Nygard	Network Optimization & Semantic Control for Remote Autonomous Veh.	Office of Naval Research	$304,471
11/96 to 6/15/01	4275	Perrizo	Public Access Resource Center	NASA	$106,579
6-00 to 9-30-01	4415	Perrizo	Virtual Archival Storage VAST		$275,000
3-1-99 to 12-31-02	4737	Perrizo	Northern Great Plains Research	Great Plains	$87,075
3-1-98 to 5-15-02	4769	Perrizo	Public Access Resource Center	NASA	$65,500
1/92 to ---	5022	Perrizo	Residual Value Surrogates	IBM	$66,583
7/93 to ---	5395	Perrizo	Vendor Neutral SQL Generator	Great Plains	$2785
7/93 to ---	5512	Perrizo	Racemaker	Dakota Race	$13,710
12/93 to ---	5518	Perrizo	Multi-Campus Multimedia	IBM	$53,167
5-1-00 to 4-30-02	---	Shi	EPSCoR faculty startup grant	EPSCoR	$30,000
4-1-00 to 2-28-02	4782	Slator	New Direction in Virtual Geoscience Educ.	NSF	$74,192
5-1-00 to 4-30-01	4807	Slator	Intelligent Tutoring Using Case-Based Resoning	EPSCoR	$10,000
4-00 to 4-30-01	4807	Slator	Epscor Seed Grant	EPSCoR	$10,000
TOTAL					**$1,902,439**

COMPUTER SCIENCE DEPARTMENT GRANTS AND CONTRACTS
PART 2
PROJECTS INITIATED DURING THE JULY 1, 2000 TO JUNE 30, 2001 TIME PERIOD

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
7-1-00 to 5-15-01	4607	Kamel	Additional funding	NSF	$16,065
1-3-01 to 8-31-02	5078	Magel	Great Plains Software	Great Plains	$58,000
4-1-01 to 8-15-02	4276	Nygard	FIPSE: E-commerce Education Program	US Dept of Education	$175,000
7-00 to 4-30-01	4599	Nygard	NASA Budget	NASA	$11,697
4-15-01 to 4-14-04	4795	Nygard	Cooperative Control of Multiple Unmanned Autonomous Vehicles	US Air Force AFOSR	345,148
4-01 to 4-02	1338	Perrizo	Engberg President Award		$8,100
8-1-00 to 4-30-02	5495	Salah	EPSCoR faculty startup grant	EPSCoR	$30,000
5-01 to 5-02	1126	Slator	Towards Construction of a Virtual Archeology Site	Grant in Aid	$6,000
9-1-00 to 8-31-01	4738	Slator	ITR – Systems for Learning	NSF	$351,050
00-05		Slator	Systems for Learning Science and Assessing Student Learning;	NSF-ITR	$1,940,000
8-1-00 to 4-30-02	5496	VanHorn	EPSCoR faculty startup grant	EPSCoR	$30,000
TOTAL					**$2,971,060**

II. PROGRAM STRENGHS AND FUTURE PLANS FOR 2000-2001

FACULTY RESEARCH ARTICLES, PUBLICATIONS AND SERVICES

D. Bruce Erickson - Departmental Activities Spring 2000-Fall 2000

7 courses
5 different preparations: CSci 155, CSci 160, COMP174, CSci 222, COMP708/CSci 708.
I spent two months as acting chair during the summer.

CSci 160, COMP174 and CSci 222 are very demanding of time, since they usually have rather large enrollments, CSci 160 and COMP 174 are part of the "boot camp" of the computer science curriculum, and CSci 222 is “abstract” and difficult for most students, (as is COMP708/CSci 708, but one can expect more from graduate students most of the time).

Some of my attributes:

- Master teacher.
- Caretaker of COMP Undergraduate Documents (improving readability maintaining currency).
- Departmental representative on the College Student Progress Committee since spring of 1994.
- Member of Computer Science Department Scholarship Committee.
- General resource person on Java and programming for a number of our CS faculty and their students.
- Many Masters Degree graduate student's committees.
- Undergraduate coordinator.

Paul Juell - Departmental Activities Spring 2000-Fall 2000

Publications

Juell, P and R Marsh, Improved Scale and Rotation Invariants Correlation Using Block-Median Filtering, the 2000 International Conference on Imaging Science, Systems, and Technology (CISST'2000: June 26-29, 2000, Monte Carlo Resort, Las Vegas, Nevada, 2000.

Juell, P., Visualization of symbolic information: empowering student introspection, Ed-Media 2000, World Conference on Educational Multimedia, Hypermedia and Telecommunications, Jun3 26-July 1, 2000, Montreal Canada.

Juell, P., Enabling Student Development of Interactive Program Visualizations, The Fifth Joint Conference on Information Sciences, Atlantic City, NJ, February 27-March 3, 2000.

Hill, Curt and Paul Juell, Telecommuting Arrives in the Classroom, Midwest Instruction and Computing Symposium, St. Paul, Minnesota, April 15-17, 2000.

Walker, Rick, Paul Juell and Sandy Sprafka, Using the Internet to Extend Classroom Walls, Midwest Instruction and Computing Symposium, St. Paul, Minnesota, April 15-17, 2000.

Juell, Paul, Rick Walker and Sandy Sprafka, Exploring alternatives for synchronous Course Delivery Using Internet Technology, Midwest Instruction and Computing Symposium, St. Paul, Minnesota, April 15-17, 2000.

External Funding

2000 PI, submitted Oct, 2000, memory upgrade for workstation, ND EPSCor NSF grant#EPS-9874802, $250 received.

2000 member of grant, submitted Jan 2000, Systems for learning science and assessing student learning, submitted to NSF Information Technology Research (ITR), received $1,940,001. (Slator, PI, Co-PIs McClean, Saini-Eidukat, Schwert, White, Juell),

Not Funded or Pending

not funded, submitted Feb 2001, ITR/EW Sophisticated Visualizations for the AI Classroom, NSF Information Technology Research (ITR), requested $296,308.

not funded, submitted June 2000, Sophisticated Visualizations for the AI Classroom, NSF, requested $303,308.

pending, submitted June 2000, Problem Sets for Artificial Intelligence Classes, NSF, requested $166,979.

submitted Jan 2001, Extending Symbolic Visualization, NSF ITR, requested $284,799.

1998 1999 2000 Co-PI Submitted Fall 1997, National Science Foundation (EHR-DUE) No. DUE-9752548, to Dr. Phil McClean, PI, Dr. Paul Juell, Dr. Don Schwert, Dr. Bernhardt Saini-Eidukat, and Dr. Brian M. Slator. A Shared Development Environment for Science-based Courseware; Funded: two years, $155,000

Internal Funding

2000 Supplemental allocation Support for Distance Education, Source of Funds: NDSU Technology Fees, Amount Requested: $1,800. PI P. Juell.

Service for 2000

Department Committee
    Student ACM advisor
University Committee
    CPG
    CPG subcommittee on Web use
    CPG subcommittee on strategic planning
Students completing degrees supervised by Dr. Paul Juell
    00 MS Neelakantapillai An OO Protocol for Prototyping Document Flow Systems
    00 MS Veluri WEB-Base Interactive FRL like Language
    00 MS Maram Comparison of Distributed Object Technologies
    00 MS Bhatia 3D Wizard: A language for typesetting VRML worlds
    00 MS Ayyagari Expert System Builder
    00 MS Alan Seminar Scheduler
    00 MS Peravali Database Connection Pool Manager
    00 MS Suman Web-Based Expertise Transfer System (WETS)

Ahmed Kamel - Departmental Activities Spring 2000-Fall 2000

Funded Research Projects:
5/1/00 – 5/15/01 Leveraging an Integrated Expert System and Crop Modeling System for Farm level Wheat Crop Management. Funding source: USDA through Michigan State University, funding level: $30,471

1/1/00 – 12/31/01 Leveraging Generic Task Knowledge Based Systems in Traffic Control. Funding Source: Advanced Traffic Analysis Center, NDSU, funding level: $33,000

Pending Proposals:
Co-PI on Multi-modal Cooperative Control of Multiple Unmanned Air Vehicles. PI: Dr. Ken Nygard. Submitted to: Air Force Office of Scientific Research. Date: 1/25/2001. Funding level requested: $442,505

Development of an Intelligent Agent-Based Architecture for the Development and Deployment of Distributed Knowledge Based Systems. Submitted to: U.S. - Egypt Joint Board on Scientific and Technological Cooperation. Date: 10/26/2000. Funding level: requested: $25,000

Publications:
Kamel, A., Sticklen, J, and Rafea, A. (2000). "NEPER-Wheat: Integrated Problem Solving Architecture for Crop Management." 13th International Conference on Software and Systems Engineering and their Applications. Paris, France. December 2000.

Presentation:
NEPER-Wheat: Integrated Problem Solving Architecture for Crop Management, presentation at Central Laboratory for Agricultural Expert Systems, Ministry of Agriculture, Cairo, Egypt. June 4, 2000.

Graduate Student Supervision:
In 2000, I supervised one M.Sc. project to completion (Pratap Kotala).
I currently supervise three M.Sc. thesis students (Deepak Rautela, Zulfiqer Sekender, Mohammad Smadi).

In 2000, I participated in the advisory committees of six M.Sc. students.
I am currently a member of the advisory committees of one Ph.D. candidate and two M.Sc. students.

Kenneth Magel - Departmental Activities Spring 2000-Fall 2000

Research Proposals:
"Acceptance Testing" to the NSF, principal investigator, not funded.

"Distance Education" to NDSU, co-principal investigator, accepted for funding, but funds were apparently not provided.

"NET and C# Course Development", to Great Plains Software, funded at $35,500 in 2001.

Publications:
"Increasing the Completion Rate in Distance Education: Some Proposals", Forum for Advancing Software Engineering Education, Volume 9, No. 10 (October, 1999).

"Testing Generics", accepted for Software Testing and Maintenance.

Graduate Students:
I had two M.S. Students complete their degree programs. I am presently advisor for five M.S. Students and two Ph.D. students along with co-advisor for another Ph.D. Student. I expect two M.S. and one Ph.D. student to complete their degrees during 2000. I also served as a Committee member for four other M.S. students who completed their degrees during 1999.

Service
Professional
Invited reviewer in the Software Design area for the ACM/IEEE sponsored SWEBOK project to describe the software engineering knowledge a professional in the area should possess for licensing.

Invited review captain (in charge of reviewers in this area) in the Software Testing area for the ACM/IEEE sponsored SWEBOK project.

Reviewed five proposals for several programs within the NSF.

Reviewed eight papers for two conferences and three journals

University
University Academic Affairs Committee member
University Ad Hoc Committee on Corporate Sponsorship, Chair.

College
College Curriculum Committee member

Department
Faculty Recruiting Committee
Distance Education Committee
Assessment Committee
Senior Technician Recruiting Committee, Chair.

John Martin - Departmental Activities Spring 2000-Fall 2000

DEPARTMENTAL, COLLEGE, AND UNIVERSITY SERVICE:

1. Computer Science Freshman and Transfer Student Advisor.
2. Computer Science Graduate Coordinator
3. Chairman, Computer Science Graduate Admissions Committee
4. College Representative to Graduate Council. Subcommittees: subcommittee to review ECE transcript evaluation requirement for graduate applicants

PROFESSIONAL ACTIVITIES:

I have been working since early summer 2000 on a draft of the third edition of my textbook, *Introduction to Languages and the Theory of Computation*, published by McGraw-Hill.

Kendall Nygard - Departmental Activities Spring 2000-Fall 2000

Funded Research Projects:

12/01/00 – 4/30/01 Architectures for Coordinating Multiple Agents, NASA EPSCoR Supplemental funding program,: $11,697

5/15/00 - 7/7/00 Mission Planning for Unpiloted Aerial Vehicles, Air Force Research Laboratory, Wright-Patterson AFB, $22,185

11/14/97 – 11/13/00, Network Optimization and Semantic Control for Path Planning, Office of Naval Research, $304,471

4/01/00 - 3/31/03,Agent Architectures for Autonomous Combat Air Vehicles, Office of Naval Research, $343,993

5/01/98 – 4/30/01, Deriving Specificiation from Informal Object-Oriented Specifications, Air Force Office of Scientific Research (DESPCoR), $326,629 (PI, grant formerly held by Dr. Xudong He)

5/31/01 – 5/30/04, Cooperative Control of Multiple Autonomous Vehicles, Air Force Office of Scientific Research (DESPCoR), $345,000

Pending Proposals:

Multi-modal Cooperative Control of Multiple Unmanned Air Vehicles, Air Force Office of Scientific Research (Dr. Ahmed Kamel, Co-PI). Funding level requested: $442,505

Modeling of Drug Action, National Institute of Health, submitted 7/27/00. Funding level: requested: $1,353,281 (Dr. Stefan Balaz, PI; Dr. Kendall E. Nygard, Co-PI).

Publications:

Nygard, Kendall E., "Measured Average Cell Rate-Based Congestion Avoidance Scheme", International Journal of Communication Systems, Volume 14, Issue 1; (with Hyun Choi and W. Perrizo).

Nygard, Kendall E., "Autonomous Agent Architectures for Cooperating Air Vehicles," Proceedings of the 13th International Conference on Computer Applications in Industry and Engineering (CAINE-2000), November, 2000.

Additional activities

Academic advisor for approximately 15 undergraduate students.

Service on several MS committee for students who finished this year

Major advisor for two Ph.D. and three MS students at this time

Major advisor for Gregory Kilwein who completed the MS degree in 2000

Sevice activites during 2000 include:
Departmental Chair.
Departmental faculty recruiting committee (ex officio)
Departmental Curriculum (ex officio)
University Computer Planning and Goals Committee (CPG)
MIS program management committee
MIS faculty recruiting committee
External evaluator of NASA EPSCoR proposals

William Perrizo - Departmental Activities Spring 2000-Fall 2000

Awards:
2001 Jordan A. Engberg Presidential Professor of Computer Science

Research:

JOURNAL PUBLICATIONS UNDER REVIEW

"ROCC -- A Concurrency Control Method for High Performance Distributed Database Systems", IEEE Transactions on Knowledge and Data Engineering.

"CnP - Efficient Overload Protection in Broadband Integrated Services Networks", IEEE/ACM Transactions on Networks, (with V.Shi).

"Access Control Schemes and Performance of a Link with Heterogeneous Traffic", IEEE Transactions on Communications, (with V.Shi).

"Performance Evaluation of a Wireless Communication Network with Unreliable Components", IEEE Transactions on Reliability (with V. Shi, W. Chu).

"Artificial Neural Network Applications on Remotely Sensed Imagery", Int'l Journal of Computers and Their Applications (with Qin Ding).

JOURNAL PAPERS PUBLISHED

"Computing the Blocking Probability in Communication Networks with Multi-priority Traffic", IEEE Transactions on Communications, Next Issue (with V. Shi and W. Chu).

"Measured Average Cell Rate-Based Congestion Avoidance Scheme", International Journal of Communication Systems,
Volume 14, Issue 1; (with Hyun Choi and K. Nygard).

REFEREED CONFERENCE PROCEEDINGS PUBLICATIONS UNDER REVIEW

"Deriving High Confidence Rules for Spatial Data Using a Tuple Count Cube", submitted to the International Conference on Web-Age Information Management Conference (WAIM-2001) (with Qin Ding, Qiang Ding and Amalendu Roy).

REFEREED CONFERENCE PROCEEDINGS PUBLICATIONS

"A Dual Copy Method for Transaction Separation with Multiversion Control for Read-only Transactions",
ACM Symposium on Applied Computing, March, 2001, Las Vegas, NV (with B. Lu and Q. Zou).

"Using Neural Networks for Clustering RSI Data", Information
Reuse and Integration Conference, Honolulu, Nov., 2000 (with K. Das and Q. Ding).

"Using Active Networks in Parallel Mining of Association Rules",
at Information Reuse and Integration Conference, Honolulu, Nov., 2000 (with Q. Ding).

"Multiversion Post Ordering: A New Concurrency Control Method", Accepted at the Int'l Conference on Computer Applications in Industry and Engineering, Honolulu, Nov., 2000 (with T. Harris and Q. Ding).

"A New Deadlock Prevention Method", Accepted at Int'l Conference on Computer Applications in Industry and Engineering, Honolulu, Nov., 2000 (with J. Wang and Q. Ding).

"Data Mining Applications on Large Remotely Sensed Imagery Data", IFIP World Computer Congress 2000 Conference Proceedings, Beijing, China, August, 2000 (with Q. Ding).

"Distributed Level Ordered Transaction Scheduling", International Conference on Parallel and Distributed Computing Systems, Las Vegas, August, 2000. (with Q. Zou, K. Scott and Q. Ding).

"Generalized Bitmap Indexes for Multiway Equijoin Query Processing", International Conference on Parallel and Distributed Computing Systems, Las Vegas, August, 2000. (with K. Scott and Qinghua Zou).

"Active Networking in Distributed Multimedia Information Systems", Information Resource Management Association Conference 2000, Anchorage, Alaska, May, 2000.

"The Application of Association Rule Mining to Remotely Sensed Data", Association of Computing Machinery Symposium on Applied Computing 2000, Como Lake, Italy, April, 2000 (with J. Dong, Q. Ding, J. Zhou).

"Distributed Query Processing using Active Networks", Accepted and to appear, Association of Computing Machinery Symposium on Applied Computing 2000, Como Lake, Italy, April, 2000 (with Z. Zhang).

"The Application of Association Rule Mining to Remotely Sensed Data", ACM Symposium on Applied Computing, Como, Italy, March, 2000. (with J. Dong, Q. Ding, and J. Zhou)

"Distributed Query Processing Using Active Networks", ACM Symposium on Applied Computing, Como, Italy, March, 2000. (with Zhili Zhang).

"Level Order Transaction Scheduling - High Performance Concurrency Control in Centralized Databases", ISCA International Conference on Computer and Their Applications, New Orleans, March, 2000.

"A New and Efficient Approach to Association Rule Mining on Imagery", ISCA International Conference on Computer and Their Applications, New Orleans, March, 2000.

Service:

CONFERENCES AND SESSIONS ORGANIZED

2001 International Conference on Computer Applications, Program Committee.
2001 International Conference Web-Age Information Management, Program Committee.
2001 Int'l Conference on Intelligent Multimedia and Dis. Ed., Program Committee, Fargo, ND.
2000 Int'l Conference on Computers Applications in Industry and Engineering, Program Committee.
2000 ISCA International Conference on Computer Applications, Program Committee, New Orleans.

THESES AND DISSERTATIONS DIRECTING

Tapan Padhi " An Atomic Commitment Protocol for Distributed Database Systems on Very High Speed Networks", M.S. 2000

Rakhi Mukherjee "Kriging: A Novel Method for Interpolating Missing Spatial Data" M.S. 2000
Shariful Islam "Fast Fourier Transforms and Spectral Analysis for Remotely Sensing Imagery" M.S. 2000
Kaushik Das, "Neural Network Applications in Remotely Sensed Imagery" M.S., 2000

THESIS ADVISING IN PROGRESS

William Jockheck "Active Network Information Compression and Storage Methods", Ph.D. expected 2003.
Julio Sanchez, "Active Network Data Mining using Clusters of COTS Systems", Ph.D. expected 2003.
Qin Ding, "Data Mining in multi-disciplinary databases", Ph.D. expected 2001.
Rohit Nadig, "Active Networking in Scalable Parallel Computer Clusters", M.S. expected 2001.
George Hamer, "Database Middleware for Asynchronous Transfer Mode Networks", Ph.D. expected 2002,
Venkata N. R. Goli, "Domain Vector Perfect Hash Join Query Processing". Ph.D. expected 2002.
Stephen Krebsbach, "Query Indexes for Accelerating SPJ Queries", Ph.D. expected 2002.
Jingkai Zhou, "Precision Agriculture using Remotely Sensed Imagery", M.S. expected 2001.
Maria Canton, "Information Mining using High-level Database Languages", M.S. expected 2001.
Qun Wei, "Active User Profile Data Mining", M.S. expected 2001.
Baojing Lu, "To be determined", M.S. expected, 2001.
Amalendu Roy, "To be determined", M.S. expected 2001.
Ashan Habib, "To be determined", M.S. expected 2002.
Abdul Maleq Khan, "To be determined", M.S. expected 2001.
MD Kabir Hossain "To be determined", M.S. expected 2002.
Bei Zhang "To be determined", Ph.D. expected 2003.
Yi Zhang "To be determined", M.S. expected 2002.

OTHER PROFESSIONAL ACTIVITIES and SERVICE Jan. 1, 2000 - present

Board Member of the NDSU Research Foundation
Northern Plains Ethics Institute "Gown Group" Member, 2000-
Referee, IEEE Transactions on Knowledge and Data Engineering Journal.
Referee, IEEE Transactions on Parallel and Distributed Systems.
Referee, ACM International Symposium on Applied Computing.
Referee, ISCA Conference on Computer Applications.
Referee, ISCA Conference on Computer Applications in Industry and Engineering
Referee, ISCA Conference on Parallel and Distributed Computing
Referee, IRMA Conference on Information Resource Management
Computer Science Department Recruiting Committee
NDSU Information Technology Roundtable Chairman.
NDSU Information Technology Roundtable Member.
Planning Committee, NDSU Research Technology Park Building II

PROFESSIONAL MEMBERSHIPS

Association of Computing Machinery
Association of Computing Machinery Special Interest Group on Management of Data
Institute of Electrical and Electronic Engineering
Institute of Electrical and Electronic Engineering Computer Society
International Society of Computer Applications
American Association of Artificial Intelligence
Information Resource Management Association

Akram Salah - Departmental Activities Spring 2000-Fall 2000

Research:

I completed and submitted a paper on "A Fusion Methodology for Software Development" to the international conference on Software Architecture (to be held Aug 28-31, 2001 by the Royal Netherlands Academy of Arts and Sciences.

I am working on developing a plan for my future software engineering research.

I started communication with Dr. Campiglia of the Chemistry department to develop a chemistry-computer joint research proposal on using computer recognition of chemical compounds based on analyzing signals produced from Spectrometry experiments. I have a research student working on a prototype for this project.

I started a seminar in Formal Methods for Software Engineering.

Services:

I proposed a new course on software engineering. The course will be offered in Fall 2001 as a 400/600 level under the title "Software Engineering Principles"

I started communication with Great Plains Software to set the plans for summer research. Through discussions with Bryan Schmidt for the course, we had a couple of meetings to brainstorm and exchange ideas on possible summer plan.

I participated as a member in the final defense committee for two M. Sc. Degrees in computer Science.

Victor Shi - Departmental Activities Spring 2000-Fall 2000

Publications:
Victor Shi and William Perrizo, ``CnP--Efficient Overload Protection in Broadband Integrated Service Networks", IEEE transactions on networking.

V. T.-S Shi, C. Wang, W. Perrizo, "Computing the blocking probabilities in communication networks with multi-priority traffic", IEEE Transactions on Communications, accepted

Presentations:
V T.S. Shi, W. Perrizo and Z. Zhang, "ROCC A Concurrency control method for high performance distributed database systems", WUGS gigabit network workshop^Ò2000, 2000

V T.S. Shi, W. Perrizo, "Overload protection using SPC card^Ô, WUGS gigabit network workshop 2000", 2000

Patent
One patent petition for concurrency control in database systems is under processing.

Brian Slator - Departmental Activities Spring 2000-Fall 2000

Conference Proceedings

Hill, Curt and Brian M. Slator (2000). Computer Science Instruction in a Virtual World. World Conference on Educational Media, Hypermedia and Telecommunications (ED-MEDIA 2000), June 26-July 1, Montreal, Quebec, Canada.

Pending Publications

Slator, Brian M., Bernhardt Saini-Eidukat, Donald P. Schwert, (In press, 2001, submitted 2000) Mining for Problem-solving Styles in a Virtual World. Proceedings of the 12th International Conference of the Society for Information Technology and Teacher Education (SITE'01), Orlando, FL, March 4-10,

McClean, Phillip, Bernie Saini-Eidukat, Donald Schwert, Brian Slator, Alan White (In press, 2001, submitted 2000). Virtual Worlds in Large Enrollment Biology and Geology Classes Significantly Improve Authentic Learning. In Selected Papers from the 12th International Conference on College Teaching and Learning (Jack A. Chambers, Editor). Jacksonville, FL: Center for the Advancement of Teaching and Learning. April 17-21.

Clark, J. T., A. Bergstrom, J. Landrum, III, F. Larson, and B. Slator. (In press, 2001, submitted 2000). Digital Archiving Network, for Anthropology. In Proceedings of the Virtual Archaeology Between Scientific Research and Territorial Marketing Conference, Arezzo, Italy, November 2000. Edited by F. Niccolucci. Oxford: BAR International Series.

Under Review

Slator, Brian M. and Curt Hill (submitted Mar. 2000). Teaching Computer Science with Virtual Worlds. IEEE Transactions on Education.

Slator, Brian M., Jeffrey Clark, Paul Juell, Phil McClean, Bernhardt Saini-Eidukat, Donald P. Schwert, Alan R. White (Submitted, 2001). Research on Role-based Learning Technologies. Proceedings of the IEEE International Conference on Advanced Learning Technologies, 6-8 August 2001, Madison, WI

Grantsmanship

Submitted 12/1/00,: Research on Learning in Virtual Words for Education, Source of Funds: NSF-ROLE, Total Amount Requested: $338,749 for three years (Slator, PI, Co-PIs McClean, Schwert).

Submitted 11/29/00. Preproposal: The Digital Archive Network for Anthropology. Source of Funds: NSF-ITR. Total Amount Requested: $4,238,976 for 4 years (Clark, PI, Co-PIs Perrizo, Slator).

Submitted 8/4/00. A Center for Digital (and 3D) Archiving for Anthropology. Source of Funds: NSF-EISBS. Total Amount Requested: $2,500,197 for 5 years (Clark, PI, Co-PIs Perrizo, Slator).

Submitted 7/17/00. Virtual Education in Biology. Source of Funds: NSF-CCLI. Total Amount Requested: $282,613 for 3 years (McClean, PI, Co-PIs Slator, White).

Submitted 6/1/00, Research on Learning in Virtual Words for Education, Source of Funds: NSF-ROLE, Total Amount Requested: $327,912 for three years (Slator, PI, Co-PIs McClean, Schwert, McCourt).

Submitted 4/17/00. Systems for Learning Science and Assessing Student Learning. Source of Funds: NSF-ITR. Total Amount Requested: $2,503,191 (Slator, PI, Co-PIs McClean, Schwert, Saini-Eidukat, White).

Submitted 3/1/00, Preproposal: Research on Learning in Virtual Words for Education, Source of Funds: NSF-ROLE, Total Amount Requested: $320,872 for three years (Slator, PI, Co-PIs McClean, Schwert, Saini-Eidukat, White).

Submitted 2/16/00, Real World Geology on a Virtual Planet, Source of Funds: NSF-ITR, Total Amount Requested: $466,122 for three years (Slator, PI, Co-PIs Schwert, Saini-Eidukat).

Submitted 2/16/00, Learning in a Virtual, Interactive World, Source of Funds: NSF-ITR, Total Amount Requested: $497,463 for three years (McClean, PI, Co-PIs Slator, White).
Submitted 2/16/00, Learning Computer Science in Virtual Worlds, Source of Funds: NSF-ITR, Total Amount Requested: $332,903 for three years (Slator, PI, Co-PI Hill).
Submitted 2/7/00, The Center for Innovative Virtual Distance Education Research, Source of Funds: NDSU Federal Relations Team, Total Amount Requested: $3,900,000 for ten years (Slator, PI, Co-PIs Juell, McClean, Saini-Eidukat, Schwert, White)
Submitted 1/7/00, Intelligent Tutoring Using Case-based Reasoning, Source of Funds: ND-EPSCOR IIP Seed Grant, Total Amount Requested: $38,273 for two years (Slator, PI).
Submitted 1/5/00, Preproposal: Systems for Learning Science and Assessing Student Learning, Source of Funds: NSF-ITR, Total Amount Requested: $2,324,544 for five years (Slator, PI, Co-PIs McClean, Schwert, Saini-Eidukat, White).

Awards and Honors

Ernest L. Boyer International Award for Excellence in Teaching, Learning and Technology at the 11th International Conference on College Teaching and Learning, Jacksonville, FL, April, 2000, $5000

Innovative Excellence in Teaching, Learning and Technology Award (one of 35 given) at the 11th International Conference on College Teaching and Learning, Jacksonville, FL, April 12-15, 2000

Technical Presentations

Slator, Brian M. (2000). Research on Virtual Worlds for Education. Presented at the Intel Education Symposium, Intel Corporation, Porthland, OR, Dec. 8.
Clark, J. T., Bergstrom, A., Landrum, J.E., Slator, B., Teo, Lai-Ong. (2000). Scanning the Future in Archaeology: Three-Dimensional Digital Archiving. Proceedings of the 28th Annual Conference on Computer Applications and Quantitative Methods in Archaeology,. April 18-21, Ljubljana, Slovenia.
McClean, Phillip, Paul Juell, Donald P. Schwert, Bernhardt Saini-Eidukat, Brian M. Slator, and Alan R. White (2000). Virtual Environments for Role-based Education. The Internet2 Spring Members Meeting, March 27-29, Washington, DC
Slator, Brian M. (2000). Intelligent Agents in Virtual Worlds. Presentation to the CS790 Intelligence Agents Seminar, Dr. Ahmed Kamel presiding. North Dakota State University, Fargo, ND. February 10.
Slator, Brian M. (2000). Teaching with Virtual Worlds. Presented at the 11th International Conference on College Teaching and Learning, Jacksonville, FL, April 12-15.

Service

BASC-01 (2000-2001) Committee member, Ernest L. Boyer International Award for Excellence in Teaching, Learning and Technology Selection Committee, Dr. Jack Chambers, Chair.
SVWE-01 (2000-2001) Symposia Organizer and Chair, Symposium on Virtual Worlds for Education at ICIMADE-01.
ICIMADE-01 (2000-2001). Program Committee. International Conference on Intelligent Multi-Media and Distance Education, Dr. Mahbubur Rahman Syed and Dr. Orlando Baiocchi, Conference Co-Chairs
ICTAI-00 (2000). Program Committee. International Conference on Tools with AI. Babak Hamidzadeh, Program Chair.
SM-DSC (1999-2000). Committee member, College of Science and Mathematics Dean Search Committee, Virginia Clark, Chair
CS-MJPFS (1999-2000). Committee member, CS-MIS Joint Position Faculty Search Committee. Joseph Latimer, Chair.
CS-FSC (1998-2000). Committee Chair, Faculty Search Committee, Computer Science Department

CS-MIS (1998-present). Committee member, Management Information Sciences (MIS) Steering Committee. Joseph Latimer, Chair.

WWWIC (1996-present). Committee member. World Wide Web Instructional Committee (WWWIC). Phil McClean, Professor, NDSU Plant Science, Chair.

Mentoring

ND-EPSCoR Faculty Laboratory And Research Experience Award (FLARE) to Curt Hill, $4,900 (Dr. Brian M. Slator, faculty mentor), Summer 2000.

ND-EPSCoR Science Bound Student Award to Philip Gunderson, $1,458 ($5.15/hour for 10 hours of work per week), Spring-Summer, 2000.

Public Relations

WDAY, KVLY, KVRR, KXJB (2000). Local Television coverage of NSF Award, Wed. Sept 13-14
- Feature stories on the $1.94 Million NSF grant, running on all four local television stations on the evening and morning news.

Coomber, Sarah (2000). Dream worlds, real learning. Fargo Forum, Sept 14, pp. B1-2.
- Feature story on the WWWIC group and the $1.94 Million NSF grant award, to B. Slator, PI

Ray, Bipasha (2000). NSF awards SU $1.9 million grant to develop virtual games. The NDSU Spectrum (student newspaper), 104(7), Tuesday, Sept 19th, page 1.
Front page article on the WWWIC group and the $1.94 Million NSF grant award, to B. Slator, PI

It's Happening at State (2000). NDSU researcher receives $1.9 million NSF grant. Sept 20th, page 1-2
- Ten paragraph article with photo about the $1.94 Million NSF grant award.

NDSU Viewbook (2000). NDSU Faculty Enrich their Teaching by Discussing their Research in Classes and Involving Students in the Labs and Out in the Field. NDSU University Relations, page 8. (also online at http:// www.ndsu.edu/ndsu/ prospective_students/ viewbook/ faculty.shtml)
- Half-page description with photo of virtual environment research with reference to winning the Boyer award.

It's Happening at State (2000). State college faculty collaborate with NDSU researchers, February 23rd, page 4.
- Four paragraph notice about the ND-EPSCoR Faculty Laboratory and Research Experience (FLARE) award to Curt Hill, VCSU, and Brian Slator, faculty mentor, and their classroom use of a "computerized learning environment".

It's Happening at State (2000). Faculty to present at Internet2 conference, March 22rd, page 7.
- Six paragraph notice about the Spring 2000 Internet2 Member Meeting in Washington DC featuring the Virtual Cell and the Geology Explorer.

It's Happening at State (2000). NDSU project showcased on Internet2 Web site. June 14, page 5
- Four paragraph notice about the Virtual Cell being the "showcase" site featured on the Internet2 home page.

Graduate Student Progress

a) as major professor (completed)

Xinhai Ye, 2000, Virtual Entity Tool: A Tool to Assist Content Specialists in Constructing and Maintaining Hierarchical Objects in Virtual Scientific Domains. M.S., Computer Science

b) as major professor (ongoing)

Bing Chen, M.S. Computer Science
Curt Hill, Ph.D. Computer Science
Umesh Kedla, M.S. Computer Science
Mei Li, M.S. Computer Science
Atif Majeed, M.S. Computer Science
Vidylatha Nagareddy, M.S. Computer Science

John Opgrande, M.S. Computer Science
Ge Peng, M.S. Computer Science
Kishore Peravali, M.S. Computer Science
Patrick Regan, M.S. Computer Science
Lai-Ong Teo, M.S. Computer Science
Bradley Vender, M.S. Computer Science
Quiang Xiao, M.S., Computer Science

c) as examining committee member (completed)
Christopher Anderson, M.S., Psychology, 2000
Kaushik Das, M.S. Computer Science, 2000

d) as examining committee member (ongoing)
Aaron Bergstrom, M.S., Anthropology
Myrna Hanson, M.S. Educational Leadership
James Landrum, M.S., Anthropology
Kuo-Di Jian, Ph.D., Computer Science

Vasant Ubhaya - Departmental Activities Spring 2000-Fall 2000

PROFESSIONAL ACTIVITIES:

Invitations to present talks: (i) I presented the invited talk "Least squares curve fitting by a piecewise linear continuous function" with S. Kundu at the conference "Trends in Approximation Theory" hosted by Vanderbilt University in Nashville, Tennessee in May 2000. **(ii)** I have been invited to give a talk at the international symposium "Tenth International Conference on Approximation Theory" to be held in St. Louis in March 2001. **Technical Referee:** For several journals such as the Journal of Approximation Theory, Constructive Approximation, Computers and Mathematics with Applications.

RESEARCH:

Publications (refereed journals): Published/Accepted: (i) Minimizing Separable Convex Functions Subject to Simple Chain Constraints (with M. J. Best and N. Chakravarti), SIAM Journal on Optimization, Vol. 10, No. 3, pp. 658-672, 2000. **(ii)** Isotone Functions, Dual Cones and Networks, Applied Mathematics Letters, accepted for publication. **Papers in process: (iii)** Best Approximation by Bounded or Continuous Functions, Encyclopedia of Optimization, Kluwer Academic Publishers, to be published, galley proof is submitted. **(iv)** Regression by Special Functions, Encyclopedia of Optimization, Kluwer Academic Publishers, to be published, galley proof is submitted. **(v)** Fitting a Least Squares Piecewise Linear Continuous Curve in Two Dimensions (with S. Kundu), Computers and Mathematics with Applications, An International Journal, to be published, galley proof is submitted.

GRANT PROPOSALS APPLICATIONS: (i) Modeling of Drug Action, submitted to NIH RFP Planning Grants for National Program in Excellence in Biomedical Computing (NPEBC), $1,968,013, 10-01-01 to 09-30-04, with Stefan Balaz (PI) and others, submitted and pending. **(ii)** ITR/ACS: Distribution Kinetics of Chemicals in Biosystems, National Science Foundation, Information Technology Research, $499803, 36 months, starting date 10/01/00, with Stefan Balaz (PI) and others, not funded.

SERVICE: (i) Technical referee. See under PROFESSIONAL ACTIVITIES. **(ii)** Chair, Departmental Promotion, Tenure and Evaluation Committee. **(iii)** Chair, Departmental Assessment Committee. **(iv)**

Graduate Admissions Committee member **(v)** Grader for the English Language Proficiency Tests (LPT). **(vi)** Organizer of summer school grading and tutoring support. **(vii)** Supervisory Committee member for several graduate students. **(viii)** Advisor for undergraduate and graduate students. **(ix)** Departmental liaison with the library for acquisition of Computer Science and Operations Research books and journals.

Kevin VanHorn - Departmental Activities Spring 2000-Fall 2000

Service

Dr. Van Horn took the lead to develop a statement regarding the importance of supporting UNIX environments at NDSU (with help from Dr. Paul Juell). This document, loosely referred to as the UNIX manifesto, was signed by all faculty in the department and forwarded to ITS for their consideration. This was an excellent piece of work. In addition, Dr. Van Horn is serving on the committee to hire a new Senior Systems Administrator for the department following the resignation of Mark Tinguely. Dr. Van Horn's contributions in the service area are at an appropriate level for a new faculty member.

Research

Dr. Van Horn is systematically building an advanced research program in speech recognition. It is quite significant that he has developed a collaborative working relationship with Dr. Dr. Joseph Picone of Mississippi State University. Dr. Picone is the Director of the ISIP (Institute for Signal and Information Processing (ISIP), a high-profile organization in speech recognition. Dr. Van Horn has also made preliminary steps in becoming involved with Federal Relations team projects pertaining to speech recognition. Overall, Dr. Van Horn has a good start in research at NDSU.

III. ENROLLMENT AND FTE DATA

Student Credit Hours and FTEs Generated

	1996-1997		1997-1998		1998-1999		1999-2000		2000-2001	
	Credit hours	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**
100-200	9519	11.9	9038	11.3	9191	11.46	9176	11.47	8915	11.14
300-400	1659	3.05	2009	3.69	2295	4.22	2343	4.31	3243	5.96
600-700	1210	4.2	1263	4.39	1127	3.91	1279	4.44	1570	5.45
TOTAL	12388	19.15	12310	19.38	12,613	19.62	12798	20.22	13728	22.56

SUMMER II SCHEDULE
2000

COURSE HOURS	**CLASS TITLE**	**INSTRUCTOR**	**STUDENT CREDIT ENROLL**

145	Intro to Computers	Staff		2
147	Microcomputer Packages	Dana Johnson	29	3
150	Programming in Basic	Dana Johnson	21	3
228	Computing Fund. II	A. Sheikh	17	3
315	System Analysis & Design	K. Magel	29	3
373	Assembly Program	A. Kamel	18	3
373	Assembly Program	A. Dargar	19	3
790	Sem/Pattern Recognition	A. Kamel	13	1
797	Master Paper	Staff	12	R-3
798	Master Thesis	Staff	5	R-10
799	Doctoral Dissertation	Staff	6	R-15

FALL SEMESTER SCHEDULE
2000

COURSE HOURS	CLASS TITLE	INSTRUCTOR	STUDENT ENROLL	CREDIT
122	Program in BASIC	A. Viswanathan	45	3
122	Program in BASIC	D. Johnson	47	3
145	Intro to Computing	T. Dutta	3	2
145	Intro to Computing	T. Dutta	2	2
146	Business Use of Computers	A. Tokhi	54	3
146	Business Use of Computers	N. Rahman	58	3
146	Business Use of Computers	S. Marla	54	3
146	Business Use of Computers	P. Kotala	54	3
146	Business Use of Computers	V. **Shanmugasundaram**	58	3
146	Business Use of Computers	A. Sheikh	55	3
146	Business Use of Computers	A. Sheikh	57	3
146	Business Use of Computers	A. Sheikh	25	3
147	Microcomputer Packages	S. Anugonda	29	3
147	Microcomputer Packages	A. Perera	58	3
147	Microcomputer Packages	R. Bhalla	55	3
147	Microcomputer Packages	R. Ferdinando	58	3
147	Microcomputer Packages	T. Loomba	56	3
147	Microcomputer Packages	S. Desaraju	54	3
147	Microcomputer Packages	Dana Johnson	52	3
147	Microcomputer Packages	Dana Johnson	56	3
155	Immigration (JAVA)	B. Erickson	11	3
159	CS Problem Solving	K. Nygard	42	3
160	Computer Science I	John Martin	27	4
160	Computer Science I	Bruce Erickson	29	4
160	Computer Science I	A. Denton	23	4
160	Computer Science I	John Martin	26	4
160	Computer Science I	A. Denton	25	4
161	Computer Science II	V. Shi	23	4

161	Computer Science II	K. VanHorn	28	4
194	Software Dev in VBASIC	D. Johnson	22	3
194	Software Dev in VBASIC	D. Johnson	7	3
214	Self-Paced C	G. Christenson	16	1
222	Discrete Mathematics	Bruce Erickson	35	3
222	Discrete Mathematics	Vasant Ubhaya	43	3
227	Computing Fund. I	A. Sheikh	51	3
227	Computing Fund. I	A. Sheikh	42	3
235	Theoretical CS I	John Martin	57	3
315	System Anal & Design	A. Salah	40	3
315	System Anal & Design	A. Salah	43	3
315	System Anal & Design	M. Pavicic	34	3
366	Files/Database System	V. Shi	64	3
373	Assembly Programming	C. Young	34	3
373	Assembly Programming	A. Dargar	29	3
453	Linear Program Network	Vasant Ubhaya	2	3
458	Microcomputer Graphics	P. Juell	29	3
474	Operating Systems Conc.	A. Kamel	43	3
474	Operating Systems Conc.	K. VanHorn	21	3
477	Objected Oriented System	K. Magel	7	3
488	Human Computer Interaction	B. Slator	33	3
494	Ind Study VR Development	B. Slator	0	1
653	Linear Program Network	Vasant Ubhaya	7	3
658	Microcomputer Graphics	P. Juell	3	3
677	Objected Oriented System	K. Magel	16	3
688	Human Computer Interaction	B. Slator	3	3
708	Foundations of Programming	Bruce Erickson	34	3
713	Software Engineering I	K. Magel	47	3
765	Intro to Database Systems	Bill Perrizo	48	3
783	Topics in Software Systems	A. Kamel	0	3
785	Data Mining	B. Perrizo	15	3
790	Sem/Artificial Intelligence	Paul Juell	2	1
790	Sem/ATM	Bill Perrizo	8	1
790	Sem/Database Systems	Bill Perrizo	11	1
790	Sem/ XML	Ken Magel	11	1
790	Sem/Intelligent Agents	A. Kamel	2	1
797	Master Paper	Staff	28	R-3
798	Master Thesis	Staff	16	R-10
799	Doctoral Dissertation	Staff	9	R-15

SPRING SEMESTER SCHEDULE
2001

COURSE HOURS	CLASS TITLE	INSTRUCTOR	STUDENT ENROLL	CREDIT

122	Program in BASIC	D. Johnson	34	3
122	Program in BASIC	T. Krile	33	3
125	COBOL Programming	J. Olfert	35	3
125	COBOL Programming	J. Olfert	42	3
145	Intro to Computing	D. Johnson	7	2
146	Business Use of Computers	V. **Shanmugasundaram**	57	3
146	Business Use of Computers	T. Dutta	61	3
146	Business Use of Computers	A. Tokhi	51	3
146	Business Use of Computers	N. Rahman	54	3
146	Business Use of Computers	A. Sheikh	46	3
146	Business Use of Computers	A. Sheikh	49	3
146	Business Use of Computers	A. Sheikh	27	3
147	Microcomputer Packages	S. Desariju	57	3
147	Microcomputer Package	A. Perera	55	3
147	Microcomputer Packages	S. Anugonda	58	3
147	Microcomputer Packages	A. Nandula	56	3
147	Microcomputer Packages	T. Loomba	50	3
147	Microcomputer Packages	D. Johnson	53	3
147	Microcomputer Packages	D. Johnson	59	3
147	Microcomputer Packages	D. Johnson	8	3
160	Computer Science I	B. Erickson	37	4
160	Computer Science I	A. Salah	27	4
161	Computer Science II	V. Shi	27	4
161	Computer Science II	A. Kamel	38	4
161	Computer Science II	B. Erickson	33	4
172	Intermediate VBASIC	D. Johnson	28	3
212	Self-Paced C++	G. Christenson	13	1
228	Computer Fundamentals	A. Sheikh	42	3
228	Computer Fundamentals	A. Sheikh	40	3
236	Theoretical CS II	John Martin	44	3
316	System Testing & Maint	S. Shawky Salah	53	3
316	System Testing & Maint	S. Shawky Salah	45	3
345	Topics in Personal Computers	Brian Slator	74	3
372	Comparative Languages	K. Magel	32	3
372	Comparative Languages	P. Juell	29	3
374	Computer Organization	A. Dargar	44	3
374	Computer Organization	A. Dargar	28	3
426	Intro/Artificial Intelligence	B. Slator	23	3
454	Operations Research	V. Ubhaya	0	3
459	Local Area Networks	V. Shi	24	3
467	Algorithm Analysis	John Martin	38	3
467	Algorithm Analysis	V. Ubhaya	25	3
475	Operating Systems Design	K. VanHorn	19	3
475	Operating Systems Design	A. Kamel	35	3
489	Soc. Implications of Computer	K. Nygard	115	3

494	Indep Study/ VR Development	B. Slator	1	1
626	Intro/Artificial Intelligence	B. Slator	1	3
654	Operations Research	V. Ubhaya	21	3
667	Algorithm Analysis	V. Ubhaya	11	3
689	Social Implications of Comp.	K. Nygard	3	3
714	Software Engineering	K. Magel	22	3
724	Survey of AI	P. Juell	46	3
778	Computer Networks	B. Perrizo	44	3
783	Special Topics/Data Mining	B. Perrizo	10	3
783	ST/Dist. Autonomous Agents	K. Nygard	1	3
790	Sem/Artificial Intelligence	P. Juell	3	1
790	Sem/Speech Recognition	K. Vanhorn	4	1
790	Sem/Intelligent Agents	A. Kamel	0	1
790	Sem/ATM	Bill Perrizo	12	1
790	Sem/Formal Methods in	A. Salah	0	1
790	Sem/Database Systems	Bill Perrrizo	9	1
790	Sem/Educational Media	Brian Slator	1	1
790	Sem/XML	K. Magel	16	1
793	IS/Multi Agent Architecture	K.Nygard	2	R-5
793	IS/Artificial Intelligence in Trans	A. Kamel	1	2
797	Master Paper	Staff	33	R-3
798	Master Thesis	Staff	25	R-10
799	Doctoral Dissertation	Staff	11	R-15

SUMMER I SCHEDULE
2001

COURSE HOURS	CLASS TITLE	INSTRUCTOR	STUDENT ENROLL	CREDIT
146	Business Use of Computers	A. Sheikh	29	3
146	Business Use of Computers	A. Sheikh	15	3
160	Computer Science I	B. Erickson	18	4
227	Computing Fund. I	A. Sheikh	14	3
372	Comparative Languages	B. Slator	72	3
459	Local Area Networks	K. Magel	18	3
659	Local Area Networks	K. Magel	29	3
760	Dynamic Programming	V. Ubhaya	14	3
797	Master Paper	Staff	11	R-3
798	Master Thesis	Staff	6	R-10
799	Doctoral Dissertation	Staff	6	R-15

STUDENT RATING OF INSTRUCTION RESULTS 2000-2001

FALL, 2000 and SPRING 2001

Questions	VG	G	IB	P	VP	OMIT	DEPARTMENT LEVEL Mean	S.D.	#R
100 TO 200 LEVEL									
1. Your satisfaction with the instruction in this course.	19.6	45.5	23.0	8.5	3.2	0.1	3.645	1.099	2242
2. The instructor as a teacher.	22.4	42.5	24.1	7.2	3.6	0.2	3.719	1.113	2241
3. The ability of the instructor to communicate effectively	15.6	33.5	32.5	13.4	4.6	0.4	3.490	1.169	2241
4. The quality of this course	16.6	47.2	25.8	7.3	2.4	0.7	3.623	1.022	2233
5. The fairness of procedures for grading this course.	33.4	47.2	13.1	4.3	1.8	0.3	3.969	0.994	2239
6. Your understanding of the course content.	19.8	48.6	23.7	9.1	2.5	0.3	3.743	0.951	2238
300 TO 400 LEVEL									
1. Your satisfaction with the instruction in this course.	16.2	34.0	21.7	14.2	13.2	0.8	3.645	1.099	2242
2. The instructor as a teacher.	20.6	34.6	19.4	12.0	12.6	0.8	3.719	1.113	2241
3. The ability of the instructor to communicate effectively	19.4	31.1	21.1	11.2	16.6	0.6	3.490	1.169	2241
4. The quality of this course	13.1	32.8	28.2	15.5	9.4	1.1	3.623	1.022	2233
5. The fairness of procedures for grading this course.	22.8	37.5	22.9	8.5	7.5	0.8	3.969	0.994	2239
6. Your understanding of the course content.	13.4	40.0	30.3	10.6	4.9	0.8	3.743	0.951	2238
600 TO 700 LEVEL									
1. Your satisfaction with the instruction in this course.	49.4	41.5	5.8	1.2	0.8	1.2	3.645	1.099	2242
2. The instructor as a teacher.	60.6	34.4	2.1	0.8	0.8	1.2	3.719	1.113	2241
3. The ability of the instructor to communicate effectively	58.1	34.4	9.8	0.4	0.4	0.8	3.490	1.169	2241
4. The quality of this course	44.0	39.4	13.3	1.7	0.4	1.2	3.623	1.022	2233
5. The fairness of procedures for grading this course.	53.1	37.3	5.4	2.1	0.4	1.7	3.969	0.994	2239
6. Your understanding of the course content.	41.9	41.5	13.3	0.8	0.4	2.1	3.743	0.951	2238

UNDERGRADUATE ADVISEES 2000-2001

D. Bruce Erickson

Baspaly, Theo	Freshman
Asher, Joshua	Sophomore
Bitzegaio, Mathew	Sophomore
Bladow, Garrett	Sophomore
Daby, Charles	Sophomore
Maus, Brock	Sophomore
Asker, Brian	Junior
Baird, Wade	Junior
Bollinger, Nathan	Junior
Brown, Rance	Junior
Cai, Sufeng	Junior
Campbell, Blaine	Junior
Cosmano, Robert	Junior
Misra, Debjaya	Junior
Adams, Christine	Senior
Erdmann, Levi	Senior
Franchuk, Ryan	Senior
Hagen, Christopher	Senior
Kidd, Matthew	Senior
Kornkven, Mark	Senior
Lyons, Kari	Senior
Phan, Thiep	Senior
Schrader, Kelly	Senior
Sitz, Jeffrey	Senior
Wittmer, Matthew	Senior

Paul Juell

*Baba, Hamza	Freshman
*Kelley, John	Freshman
*Arbach, Brandley	Sophomore
*Cermak, Tiffany	Sophomore
*Chisholm, Brandon	Sophomore
*Hodgson, Daniel	Sophomore
*Jorgenson, Shawn	Sophomore
Kitzman, Jon	Sophomore
*Madsen, Amanda	Sophomore
*Richtsmeier, Jason	Sophomore
*Ahsan, Mostafa	Junior

*Anderson, Andrew	Junior
*Anderson, Brian	Junior
*Auel, Jonathan	Junior
*Buresh, Jason	Junior
*Hanson, Jessica	Junior
*Heilman, Thomas	Junior
*Mairs, Rebecca	Junior
*Malnourie, Joshua	Junior
Mauch, Eric	Junior
*Meiers, Brandon	Junior
*Monson, Kami	Junior
*Sunde, Brandon	Junior
*Bachmeier, Jeff	Senior
*Balliet, Donovan	Senior
*Balliet, Dustin	Senior
*Brendel, Bradley	Senior
*Calderwood, Matthew	Senior
*Doan, Viet	Senior
*Jansen, Leah	Senior
*Kubat, Brent	Senior
*Lefor, Eric	Senior
*Lorentz, Brian	Senior
*McDonough, Robin	Senior
*Mertz, Brandon	Senior
*Meyers, Nicholas	Senior
Moorhouse, Scott	Senior
Mormon, Jeffrey	Senior
Muchow, Dale	Senior
*Satrom, Timothy	Senior
*Striefel, Michael	Senior
*Westby, Andrew	Senior

Ahmed Kamel

Johnson, Curtis	Sophomore
Jyoti, Sanjay	Sophomore
Isley, John	Junior
Jain, Sanchita	Junior
McGinnity, Steve	Junior
Midas, Chevy	Junior
Laturnus, Lisa	Senior
Lee, Michael	Senior
McCarthy, Michael	Senior

Kenneth Magel

*Grenz, Laurie	Freshman
*Nelson, Sean	Freshman
*Silbernagel, Adam	Freshman
*Suckstorff, Kim	Freshman
*Brisk, Luke	Sophomore
*Bryn, Ryan	Sophomore
*Burnside, Pamela	Sophomore
*Busta, Andria	Sophomore
Friedl, Jake	Sophomore
Hekman, Reid	Sophomore
*Johnson, Gary	Sophomore
*Morris, Joel	Sophomore
*Nelson, Alissa	Sophomore
*Olson, Nathan	Sophomore
*Peterson, Mitchell	Sophomore
*Renner, Jesse	Sophomore
*Richtsmeier, Todd	Sophomore
*Spinar, Randall	Sophomore
*Tran, Ha	Sophomore
*Dinius, Jason	Junior
*Klockmann, Sarah	Junior
*Kolbe, Kasper	Junior
*Powell, Mark	Junior
*Roppe, Gretchen	Junior
*Anderson, Wayne	Senior
*Daily, Brian	Senior
*Deacon, Thomas	Senior
*Susag, Alex	Senior
*Deck, Michael	Senior
*Dubord, Tracey	Senior
Duncan, Joseph	Senior
*Lindemann, Brett	Senior
*Neubauer, Brenda	Senior
Nichols, Christopher	Senior
*Pawlowski, Anthony	Senior
Pikalek, Jonathan	Senior

John Martin

Albers, Jonathan	Freshman
Anderson, Brandon	Freshman
Anstadt, Jacob	Freshman
Baptist, Bret	Freshman
Bennett, Matthew	Freshman
Bjorneberg, Ben	Freshman

Blaufuss, Jeffrey	Freshman
Boer, Jason	Freshman
Boll, David	Freshman
Breimeier, Erik	Freshman
Burns, David	Freshman
Butman, Jeffrey	Freshman
Capp, Connie	Freshman
Carey, William	Freshman
Christianson, Brett	Freshman
Cimbura, Nathaniel	Freshman
Conklin, Timothy	Freshman
Conn, Christopher	Freshman
Cooke, Edwin	Freshman
Davis, Matthew	Freshman
Dischinger, Benjamin	Freshman
Dolezal, Todd	Freshman
Doyle, Brian	Freshman
Dudrey, Gabriel	Freshman
Duval, Christian	Freshman
Elseth, Jacob	Freshman
Engberg, Cole	Freshman
Fleck, Justin	Freshman
Forsberg, Lee	Freshman
Fossen, Patrick	Freshman
Frueh, Kara	Freshman
Fudge, Adam	Freshman
Furman, Austin	Freshman
Gott, Forrest	Freshman
Graff, Erika	Freshman
Griggs, Ryan	Freshman
Grindberg, Vylad	Freshman
Guthmiller, Michelle	Freshman
Hamre, Daniel	Freshman
Hastad, Anthony	Freshman
Haugen, Nicholas	Freshman
Heilman, Ryan	Freshman
Helm, Dustin	Freshman
Herring, Jacalyn	Freshman
Hetzler, Christopher	Freshman
Hillmer, Nathan	Freshman
Hoffman, Richard	Freshman
Holm, Steven	Freshman
Holzworth, Denver	Freshman
Hughes, Eric	Freshman
Huseby, Nathan	Freshman
Ihry, Jay	Freshman
Imdieke, Christopher	Freshman
Ingold, Jeremy	Freshman
Inkinen, Simo	Freshman
Jarnier, Emeric	Freshman
Jelinek, Jason	Freshman

Jensen, Aaron	Freshman
Johannes, Jeremy	Freshman
Johnson, Amy	Freshman
Johnson, Kayla	Freshman
Karg, James	Freshman
Keller, Mitchel	Freshman
Kolb, Daniel	Freshman
Koller, Evan	Freshman
Koppinger, Joshua	Freshman
Kraemer, Brian	Freshman
Kroh, Travis	Freshman
Kroshus, Nicholas	Freshman
Krueger, Adam	Freshman
Laplaca, Ryan	Freshman
Larkin, Brady	Freshman
Larson, Chadwick	Freshman
Larson, Kenneth	Freshman
Larson, Tanon	Freshman
Lee, Gregory	Freshman
Lundy, Sarah	Freshman
Maeyaert, Robert	Freshman
Maier, Nathan	Freshman
Masset, Dustin	Freshman
Masset, Ryan	Freshman
McNeese, Michael	Freshman
Messer, Erika	Freshman
Miller, Jon	Freshman
Moen, Ryan	Freshman
Morris, Joel	Freshman
Muckenhirn, Eric	Freshman
Nakamura, Kiyochika	Freshman
Nanik, Justin	Freshman
Neill, David	Freshman
Nelson, Hanni	Freshman
Nelson, Sean	Freshman
Nevland, Raylin	Freshman
Nguyen, Tilly	Freshman
Nordick, Michael	Freshman
Olson, Aaron	Freshman
Paavola, Kyle	Freshman
Parsons, Robert	Freshman
Pattison, Brian	Freshman
Pedersen, Derek	Freshman
Pelton, Nicholas	Freshman
Perkins, Chad	Freshman
Phan, Thinh	Freshman
Plante, Douglas	Freshman
Price, Michael	Freshman
Pulicicchio, Neil	Freshman
Raile, Thomas	Freshman
Rausch, Andrew	Freshman

Reha, Christopher	Freshman
Remmick, Russell	Freshman
Rue, James	Freshman
Rufer, Darren	Freshman
Sanasac, Adam	Freshman
Saueressig, Zacharey	Freshman
Schillinger, Adam	Freshman
Silbernagel, Adam	Freshman
Small, Daniel	Freshman
Spiritstone, Christopher	Freshman
Stegmiller, Jacob	Freshman
Suckstorff, Kim	Freshman
Sund, Josh	Freshman
Thomas, Jeremy	Freshman
Torborg, Chad	Freshman
Torgerson, Dustin	Freshman
Torkelson, Eric	Freshman
Trangsrud, Matthew	Freshman
Turchin, Michael	Freshman
Verret, Riley	Freshman
Vorachek, Scott	Freshman
Wacker, Brian	Freshman
Waltner, Travis	Freshman
Wang, Derek	Freshman
Warman, Jeffrey	Freshman
Wiest, Charles	Freshman
Wilson, Erin	Freshman
Wingenbach, Jason	Freshman
Wu, Qipeng	Freshman
Wurtz, Christopher	Freshman
Allar, Jared	Sophomore
Baldwin, Adam	Sophomore
Barta, Kellam	Sophomore
Berseth, Matt	Sophomore
Buchanan, Paul	Sophomore
Cook, Matthew	Sophomore
Cossette, Corey	Sophomore
Davidson, Luke	Sophomore
Dinius, Jason	Sophomore
Ehli, Sheldon	Sophomore
Elhassani, Abdelillah	Sophomore
Erhardt, Eric	Sophomore
Ficek, Christopher	Sophomore
Fleming, Taylor	Sophomore
Franz, Gary	Sophomore
Fritz, Paul Jr.	Sophomore
Gale, Athanasio	Sophomore
Grueneich, Justin	Sophomore
Gunderson, Phillip	Sophomore
Hamilton, Brenda	Sophomore

Hammond, Michael	Sophomore
Hirning, Robert	Sophomore
*Johnson, Amy Lee	Sophomore
Johnson, Bryan	Sophomore
Kadrmas, Jason	Sophomore
Kiefat, Matthew	Sophomore
Kittelson, Dustin	Sophomore
Knutson, Chad	Sophomore
Kohanowski, Shaun	Sophomore
Kranitz, Ryan	Sophomore
Kulka, Isaac	Sophomore
Kurtti, David	Sophomore
Lindvall, Nickolas	Sophomore
Lugert, Alan	Sophomore
Malheim, Jeremy	Sophomore
McDonough, Shaun	Sophomore
McKibbon, Blair	Sophomore
Meagher, Andrew	Sophomore
Melling, Paul	Sophomore
Mitchell, Chad	Sophomore
Momerak, Chad	Sophomore
Nelson, Anthony	Sophomore
Nguyen, Jimmy	Sophomore
Nguyen, Nguyen	Sophomore
Ohlsen, Tyler	Sophomore
Olson, Nathan	Sophomore
Ostby, Brandon	Sophomore
Raney, William	Sophomore
Robideau, Michael	Sophomore
Rupprecht, Jared	Sophomore
Santiago, Bosco	Sophomore
Scott, Kerry	Sophomore
Serati, Anthony	Sophomore
Serhienko, David	Sophomore
Shannon, Brocks	Sophomore
Skoog, Nikki	Sophomore
Thompson, Eric	Sophomore
Utecht, Richard	Sophomore
Vana, Stephen	Sophomore
Vetter, Denise	Sophomore
Volesky, Holly	Sophomore
Vournas, Alexious	Sophomore
Win, U	Sophomore
Wright, Wesley	Sophomore
Allen, Lisa	Junior
Anderson, Darin	Junior
Aus, Jason	Junior
Baker, Kathy	Junior
Borgen, Steven	Junior
Bradley, Troy	Junior

Burleigh, David	Junior
Chizek, Brian	Junior
Christensen, Jodi	Junior
Donnay, Ryan	Junior
Eng, Christopher	Junior
Erickson, Peter	Junior
Fimreite, Keith	Junior
Froseth, Nathan	Junior
Harambe, Clement	Junior
Heem, Andrew	Junior
Jaszkowiak, Joseph	Junior
Kuck, David	Junior
Lake, Aaron	Junior
Likness, Jeremy	Junior
Meartz, Katherine	Junior
Mellem, Brandon	Junior
Morgen, Justin	Junior
Nguyen, Tung	Junior
Pagels, Lisa	Junior
Pearson, Patrick	Junior
Peterson, Jonathan	Junior
Reede, Michael	Junior
Roos, Gregory	Junior
Schmidt, Jeffrey	Junior
Schubert, Seth	Junior
Sellers, Eric	Junior
Serani, Matthew	Junior
Taylor, Melissa	Junior
Thomson, Drew	Junior
Wampler, Danel	Junior
Wynne, Gerald	Junior
Zechman, Nicholas	Junior

Albright, Erik	Senior
Asche, Lucas	Senior
Bergstrom, Clinton	Senior
Carroll, Christopher	Senior
Cusey, John	Senior
Dick, Craig	Senior
Forde, Chad	Senior
Hendrickson, Lance	Senior
Huschka, David	Senior
Isley, Michael	Senior
Johnson, Bryce	Senior
Jordet, Ryan	Senior
Kawamura, Satoshi	Senior
Lee, Michael	Senior
Levasseur, Jesse	Senior
Lill, John	Senior
Nelson, Daniel	Senior
Ochs, Benjamin	Senior

Pillatzki, Ryan	Senior
Prochniak, Amy	Senior
Randleman, Eric	Senior
Salzsieder, Lynn	Senior
Schwantz, Jodi	Senior
Sembu, Masatomo	Senior
Tomhave, Monika	Senior
Whitlock, Joshua	Senior
Wyman, Brandon	Senior

Kendall Nygard

Cotton, James	Sophomore
Friesen, Eric	Sophomore
Voecks, David	Sophomore
Erickson, Matthew	Junior
Vette, Bradley	Junior
Weyrauch, Douglas	Junior
Anderson, Brendon	Senior
Anderson, Ryan	Senior
Beimdiek, Heath	Senior
Eddy, Chad	Senior
Huck, Jason	Senior
Koehntop, Lucas	Senior
Olson, Derrick	Senior
Pappa, Chris	Senior
Phan, Xuyen	Senior
Slag, Troy	Senior
Volesky, Shawn	Senior

William Perrizo

*Klemetson, Joseph	Freshman
*Sanders, Mark	Freshman
*Steckler, Jeffrey	Freshman
*Biel, Daniel	Sophomore
*Christianson, Tara	Sophomore
*Nogosek, Kory	Sophomore
*Schaffer, Todd	Sophomore
*Sharif-Mohamed, Abdiwahab	Sophomore
*Smith, Luke	Sophomore
*Stenger, Jessica	Sophomore
*Stotz, Melissa	Sophomore
*Thomas, Matthew	Sophomore
*Whitworth, Ryan	Sophomore

*Flaten, Justin	Junior
*Friesen, Evan	Junior
*Frueh, Jason	Junior
*Gardner, Mary	Junior
*Heinrich, Alison	Junior
*Herberg, Joshua	Junior
*Lundberg, Brian	Junior
*Schatzke, Kyla	Junior
*Smerud, Samuel	Junior
*Timmerman, Mark	Junior
*Boeddeker, Jayne	Senior
*Bossert, Tanner	Senior
*Flannery, Daniel	Senior
*Gehrls, Bradley	Senior
*Grenz, Ryan	Senior
*Hanson, David	Senior
*Inman, Patrick	Senior
*Klabo, Charles	Senior
*Louwagie, Joseph	Senior
*Martens, Dana	Senior
*Neubauer, Jackie	Senior
*Olson, Anthony	Senior
Peterson, Kenneth	Senior
*Randklev, Tyler	Senior
*Schmidt, Jason	Senior
*Schulz, John	Senior
*Stanford, Cole	Senior
*Sweeney, Kristin	Senior
*Ternes, Samuel	Senior
*Wolters, Marisa	Senior

Akram Salah

Cade, Benjamin	Freshman
Christensen, Justin	Freshman
Hartley, Corey	Freshman
Langemo, Matthew	Freshman
Torgrimson, Tyler	Freshman
Engberg, Cole	Sophomore
Flanagan, Sean	Sophomore
Hest, Joshua	Sophomore
Feist, Matthew	Junior
Schwartz, Daniel	Junior
Voskuil, David	Junior

Aus, Jason	Senior
Carroll, Christopher	Senior
Delarosa, Benjamin	Senior
Forde, Chad	Senior

Victor Shi

Folmer, Todd	Senior
Isley, Michael	Senior

Brian Slator

Adams, Jason	Sophomore
Breiland, Christopher	Sophomore
Madsen, April	Sophomore
Nguyen, Ha	Sophomore
Nseuman, Pat	Sophomore
Olson, Brandon	Sophomore
Reimer, Jason	Sophomore
Stompro, Josh	Sophomore
Crussel, David	Junior
Johnson, Jacob	Junior
Nichols, Benjamin	Junior
Odland, Kristoffer	Junior
Rader, Joshua	Junior
Scherer, Matthew	Junior
Anderson, Jeffrey	Senior
Borchert, Otto	Senior
Frovarp, Richard	Senior
Heiraas, Lana	Senior
Hokanson, Guy	Senior
Pool, Maxfield	Senior
Samek, Joe	Senior
Sawdey, Eric	Senior
Scherman, Jason	Senior

Vasant Ubhaya

Rahman, Sharif	Sophomore
Schmidt, Amanda	Sophomore
Skallerud, Sean	Sophomore
Wieler, Philip	Sophomore
Sell, Robert	Junior
Simmer, Thomas	Junior
Stern, Kyle	Junior
Susag, Alex	Junior
Tompkins, Matthew	Junior

Traun, Douglas	Junior
Davis, Jesse	Senior
Fliger, David	Senior
Lindvall, Benjamin	Senior
Mafua, Daniel	Senior
Murphy, John	Senior
Rider, Jeremy	Senior
Schlueter, Nicholas	Senior
Schultz, Peter	Senior
Simmons, Kent	Senior
Tuttle, Kyle	Senior

Kevin Van Horn

Spiritstone, Christopher	Sophomore
Schulte, Hayden	Junior
Schlecht, Joseph	Senior

***Denotes MIS major**

GRADUATE STUDENTS 2000-2001

Masters Students:

Md Ahmed
John Opgrande
Syed Ahmed
Kristin Ottem
Khandker Shahin Akter
Satyanarayana Pasupuleti
Sreelatha Anugonda
Dharmesh Patel
Mohd Anwar
Ge Peng
Arunprakash Ayyarsamy
Kishore Peravali
Rajat Bhalla
Amal Perera
Jon Bye
Murugan Pitchairaman
Xiaotao Cai
Haiyan Qiao
Bing Chen
Rong Qu
Lie Chen
Md Najeebur Rahman
Gordon Christensen
Md Rezaur Rahman
Anne Denton
Muhammad Mizanur Rahman

Surya Desaraju
Syed Rahman
Sarita Devabhaktuni
Sanjay Ramaswamy
Qiang Ding
Deepak Rautela
Tridib Dutta
Sisir Ray
Yousheng Fan
Patrick Regan
Swara Farheen
Muhammad Rehman
Mohammad Farooq
Amalendu Roy
Golam Farooque
Debashis Saha
Rohini Ferdinando
Mathangi Sankaranarayanan
Tofayel Forhad
MD Nuruzzaman Sarker
Wenge Guo
MD Rashidul Sarker
MD Habib
Susmit Sarker
Chowdhury Omar Haider
Mehdi Satter
Mohammad Shahidul Haque
M.M. Zulfiqer Sekender
Tanjina Helaly
Md Masum Serazi
Michael Hennebry
Deepak Seth
Mohammad Mazharul Hoque
Dheeraj Seth
Mohammad Hossain
Vijayakumar Shanmugasundaram
Md Islam
Mahesh Sharma
Sridhar Kancherla
Mohammad Smadi
Umesh Kedla
Guangyuan Sun
Abu Saleh Khalique
Naveed Syed
Ms Abdul Khan
Jingpeng Tang

Pratap Kotala
Vasanth Tatta
Vladimir Kravchenko
Lai Ong Teo
Terry Krile
Anurag Tokhi
Santosh Kunala
Naveen Veluri
Mei Li
Bradley Vender
Yuhuan Li
Chitra Vijayakumar
Jian Liu
Vamsi Virupakshi
Tavishi Loomba
Aruna Viswanathan
Baojing Lu
Ju Wang
Atif Majeed
Yanchun Wang
Suresh Maram
Qun Wei
Soma Marla
Nicole Wolf
Dilip Kumar Mistry
Qiang Xiao
Ahmed Momen
Xinhai Ye
Vamshi Mugu
Dongsheng Yu
Rakhi Mukherjee
Meng Yu
Syed Murtaza
Su Yuan
Rohitaswa Nadig
Mahbub Zaman
Vidyalatha Nagareddy
Tareq Uz Zaman
Aparna Nandula
Gendong Zhang
Tania Nanna
Yi Zhang
Vidya Neelakantapillai
Xiang Zhong
Neerav Nisheeth
Jing Kai Zhou

Robby Njos

PhD Students:

Jeffrey Beran-Koehn
Stephen Krebsbach
Maria Canton
Scott Lewandowski
Anup Dargar
Patrick Paulson
Qin Ding
Tai-Lane Ping
George Hamer
Julio Sanchez
Curtis Hill
Abul Kalam Sheikh
Kuo-Di Jian
Bei Zhang
William Jockheck

Graduate Degrees Awarded, 2000-01

Fall Semester, 2000	**Degree**
Ahmed, Shafeeq	MS
Alam, Meer Mahfuzul	MS
Alluri, Hari Krishna	MS
Ayyagari, Suman Suresh	MS
Devabhaktuni, Rahul	MS
Hu, Yan	MS
Kilwein, Gregory	MS
Liu, Jian	MS
Razzaque, Md. Abdur	MS
Rousskov, Alexei	MS
Sharma, Mahesh	MS
Ye, Xinhai	MS
Spring Semester, 2001	**Degree**
Ahmed, Syed	MS
Bhalla, Rajat	MS
Bhatia, Jasmeet	MS
Chen, Bing	MS
Dani, Akash	MS
Li, Yuhauan	MS

Mukherjee, Rakhi	MS
Neelakantapillai, Vidya	MS
Padhi, Tapan	MS
Paulson, Patrick	PHD
Peravali, Kishore	MS
Ping, Tai-Lane	PHD
Rahman, Mizanur Mohammad	MS
Rehman, Faisal Mohammad	MS
Roy, Amalendu	MS
Sekender, Zulfiqer	MS
Serazi, Md. Masum Hossain	MS
Smadi, Mohammad	MS
Suresh, Maram	MS
Veluri, Naveen Kumar	MS