



University of  
Minnesota

*Spring 1984*  
*Commencement*

March and June  
Candidates for Degrees

## *Board of Regents*

The Honorable Charles H. Casey, D.V.M., West Concord  
The Honorable William B. Dosland, Moorhead  
The Honorable Willis K. Drake, Edina  
The Honorable Erwin L. Goldfine, Duluth  
The Honorable Wally Hilke, St. Paul  
The Honorable Lauris D. Krenik, Madison Lake  
The Honorable David M. Lebedoff, Minneapolis  
The Honorable Verne Long, Pipestone  
The Honorable Charles F. McGuiggan, D.D.S., Marshall  
The Honorable Wenda W. Moore, Minneapolis  
The Honorable David K. Roe, St. Paul  
The Honorable Mary T. Schertler, St. Paul

## *Administrative Officers*

C. Peter Magrath, President  
David M. Lilly, Vice President for Finance and Operations  
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Kenneth H. Keller, Vice President for Academic Affairs  
Neal Vanselow, Vice President for Health Sciences  
Frank B. Wilderson, Vice President for Student Affairs

This book was prepared by University Relations. Additional copies are available from University Relations, 6 Morrill Hall, 100 Church St. S.E., University of Minnesota, Minneapolis, Minnesota 55455.

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THE BOARD OF REGENTS requests that the following Northrop Memorial Auditorium procedures or regulations be adhered to. (1) Smoking is confined to the outer lobby on the main floor, to the gallery lobbies, and to the lounge rooms. (2) The use of cameras or tape recorders by members of the audience is prohibited. (3) The sale of tickets by anyone other than authorized box office personnel is prohibited in the lobby or corridors of Northrop Memorial Auditorium.

## *Your University*

CHARTERED in 1851 by the Legislative Assembly of the Territory of Minnesota, the University of Minnesota this year celebrated its one hundred and thirty-third birthday. One of the great land-grant universities in the nation, the University of Minnesota is dedicated to training young men and women to be our future leaders. Each year, graduates add new skills and knowledge to the existing resources of the state. They have been trained as physicians, lawyers, engineers, social workers, teachers, journalists, dentists, pharmacists, nurses, scientists, farmers, business people—to name but a few of the careers for which preparation is offered. Since its founding, the University has awarded over 370,000 degrees, each one in recognition of the successful completion of a challenging academic program.

In addition to giving collegiate instruction to nearly 58,000 students annually on its Twin Cities, Duluth, Morris, Crookston, and Waseca campuses, the University offers special training for those who wish to study part-time through Continuing Education and Extension. The University also offers educational opportunities through its Agricultural Extension Service, with county agents, home agents, 4-H club agents, and recreation and health consultants available to provide help to Minnesotans in their own homes.

In the many research laboratories on the University's five campuses, at the agricultural experiment stations throughout the state—the Rosemount Research Center, the Cloquet Forestry Center, the Cedar Creek Natural History Area near Bethel, the Horticultural Research Center at Excelsior, the Landscape Arboretum at Chanhassen, the Lake Itasca Forestry and Biological Station, the Sand Plain Experimental Field at Becker, and the Hormel Institute at Austin—and at the University Hospitals, University scientists are at work on experiments of great potential importance to the quality of our lives. Research projects are leading to new knowledge in such areas as learning disabilities, drug abuse, urban and environmental problems, health care delivery systems, and computer technology. The progress made in these and other areas will have a profound impact on the lives of Minnesotans and people throughout the world.

THE UNIVERSITY continues to be a cultural center of the Upper Midwest as the home of radio station KUOM, the University Theatre, the Bell Museum of Natural History, and the local performances of the Metropolitan Opera Company.

Minnesotans have good reason to be proud of their University, not only because it is one of the leading state universities in the country, but also because of the extent and quality of its services to the people of the state, their families, communities, and organizations. The interest of Minnesotans in their University is a dynamic thing, and it expresses itself in many ways. Their contributions have made it possible to build the Variety Club Heart Hospital and the Mayo Memorial Building. Through the American Legion and its auxiliary posts all over the state, thousands of friends have made generous donations to endow a research professorship in heart disease. Other contributions have built the Masonic Cancer Center, the Veterans of Foreign Wars Cancer Research Center and Diehl Hall, which houses the biomedical library and medical research facilities.

Generous contributions by corporations, associations, foundations, trade unions, clubs, and individuals have made hundreds of grants and fellowships available to deserving students. Friends and supporters of the University, who are aware of the financial impact of increased specialization, work continuously to increase the funds available for student assistance.

COMMENCEMENT marks the conclusion only of the student's academic life at the University. As a graduate, he or she is part of its history and part of its future as well. Alumni are urged to continue their relationship with the University through the Minnesota Alumni Association and its college groups.

Alumni and their families and friends will always be welcome here. The University's doors will be open to those who come back to visit and to keep in touch with an important part of their lives.

**The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, or veteran status.**

# March Candidates for Degrees

Subject to the completion of all curriculum requirements at the close of winter quarter, degrees will be conferred as indicated on those listed below and on others meeting the graduation requirements. Degrees are listed alphabetically.

## GRADUATE SCHOOL

### Doctor of Education

Gerald Allen Davis, Decorah, Iowa  
B.S.'63, University of Northern Iowa; M.A.'76, University of Minnesota. Major: Vocational Education. Minor: Supporting Program. Project: Developing a Model for Needs Assessment in Marketing and Distributive Education for Use at National, State, and Local Levels. Major Advisers: Profs. R.D. Ashmun and M.K. Klaurens.

### Doctor of Philosophy

#### Rajgopal S. Acharya

B.E. with first class honors '78, Bangalore University; M.S.'81, University of Minnesota. Major: Biomedical Engineering. Minor: Electrical Engineering. Thesis: A Time Domain Signal Processing Approach To Improve Reconstructions of Moving Objects Using High Speed Computed Tomography. Major Adviser: Prof. H.M. Wechsler.

#### Adnan A. Al-Homoud

B.S.Math.'76, M.S.M.E.'76, M.S.'79, University of Colorado. Major: Mechanical Engineering. Minor: Fluid Mechanics. Thesis: Heat Transfer from a Circular Cylinder Due to Slot Jet Impingement. Major Adviser: Prof. E.M. Sparrow.

#### Mohammad Jasem Al-Ostaz

B.S. cum laude '77, Syracuse University; M.S.'80, University of Minnesota. Major: Mechanics. Minor: Mathematics. Thesis: Rapid Determination of Upper and Lower Bounds to Buckling Loads and Natural Frequencies of Non-Uniform Bars. Major Adviser: Prof. L.E. Goodman.

#### Gerald Edward Anderson, Alexandria, Va.

B.S. with distinction '53, M.S.'56, University of Minnesota. Major: Geography. Minor: Supporting Program. Thesis: A Revenue Field Theory of Central Place Dynamics. Major Adviser: Prof. R.B. Adams.

#### John Eric Bartelt, Milwaukee, Wis.

B.S.'77, University of Wisconsin, Madison. Major: Physics. Minor: Supporting Program. Thesis: Results from the Soudan Prototype Proton Decay Experiment. Major Adviser: Prof. Keith Ruddick.

#### Elizabeth Buchter Bernhardt, Columbus, Ohio

B.A.'76, College of Wooster; M.A.'78, University of Pittsburgh. Major: Education. Minor: German. Thesis: Text Processing Strategies of Native, Non-Native Experienced, and Non-Native Inexperienced Readers of German: Findings and Implications for the Instruction of German as a Foreign Language. Major Adviser: Prof. D.L. Lange.

#### David Arthur Bohling, St. Paul

B.A.'79, Gustavus Adolphus College. Major: Chemistry. Minor: Supporting Program. Thesis: The Electrochemistry and Highly Oxidized Chemistry of Organometallic Isocyanide Complexes. Major Adviser: Prof. K.R. Mann.

#### Carol Marie Boyer, Cloquet

B.A. summa cum laude '78, M.A.'80, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: Faculty Consulting: Salient Issues, Correlates, and Policy Implications. Major Advisers: Profs. S.M. Clark and D.R. Lewis.

#### James Edmund Brady, Reading, Mass.

B.S. with honors '77, McGill University. Major: Chemistry. Minor: Supporting Program. Thesis: Theoretical and Experimental Investigations of Solvatochromism. Major Adviser: Prof. P.W. Carr.

#### Gregg A. Butler, Fall Creek, Wis.

B.S.'72, Mount Senario College; M.S.'76, Winona State University. Major: Educational Administration. Minor: Supporting Program. Thesis: The Relationship Between School Organizational Patterns and Student Success. Major Adviser: Prof. N.C. Nickerson.

Brenda Leigh Cain, Wichita, Kan.  
B.S.Ed.'64, Pittsburg State College; M.Ed.'73, Ed.Spec.'79, Wichita State University. Major: Education. Minor: Supporting Program. Thesis: The Relationship Between Selected School Context and Support Variables and the Perceived Success and Satisfaction of Beginning Elementary Teachers. Major Advisers: Profs. K.R. Howey and Robert Dykstra.

Rafael Enrique Camargo R.,  
Colombia

Ing.Quim. '76, Universidad Pontificia Bolivariana. Major: Chemical Engineering. Minor: Supporting Program. Thesis: Kinetics and Phase Segregation Studies on the Rim Polymerization of Urethane Elastomers. Major Advisers: Profs. M.V. Tirrell and C.W. Macosko.

John Paul Clarke

B.A.'70, M.S.'74, Northern Illinois University. Major: Family Social Science. Minor: Supporting Program. Thesis: The Family Types of Schizophrenics, Neurotics, and 'Normals.' Major Adviser: Prof. D.H. Olson.

John MacPherson Condie

B.S.'74, Northeast Missouri State University. Major: Genetics. Minor: Supporting Program. Thesis: The Regulation of Histone Gene Expression in *Drosophila melanogaster*. Major Adviser: Prof. Martin Blumenfeld.

Ken Cooper, Minneapolis

B.S.B.A.'61, Bowling Green State University; M.B.A.'62, Miami University, Ohio. Major: Educational Administration. Minor: Supporting Program. Thesis: Estimating Building Repair and Renovation Funding Requirements: Methods Employed by Minnesota Independent Baccalaureate Granting Colleges. Major Adviser: Prof. W.M. Ammentorp.

Everard Elias Cornwall, Trinidad

B.S. magna cum laude '79, M.S.'80, University of Wisconsin, Stout. Major: Vocational Education. Minor: Industrial Relations. Thesis: Completion Rate at Minnesota Area Vocational Technical Institutes. Major Adviser: Prof. D.C. Bjorkquist.

Francis Nieman Crisman,  
Robbinsdale

B.S.'67, Minot State College; M.A.'72, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: A Comparison of Oral and Written Techniques of Concept Instruction to Students of Different Learning Styles. Major Advisers: Profs. J.A. Mackey and Andrew Ahlgren.

Deborah Anna Dahl, Springfield,  
Ill.

B.S. magna cum laude '75, M.A.'80, University of Minnesota. Major: Linguistics. Minor: Supporting Program. Thesis: The Structure and Function of "One"-Anaphora in English. Major Advisers: Profs. A.L. Sheldon and J.K. Gundel.

Leni de Mik, Minneapolis

B.A.'65, Ohio University. Major: Family Social Science. Minor: Supporting Program. Thesis: Cultural Information Exchange and Adaptability of Third Generation Dutch-Canadian Immigrant Families. Major Adviser: Prof. P.C. Rosenblatt.

Luis Felipe Diaz, Puerto Rico

B.A.'75, University of Puerto Rico; M.A.'78, University of Illinois. Major: Spanish. Minor: Supporting Program. Thesis: Ironia e Ideologia En *La Regenta* of Leopoldo Ala. Major Adviser: Prof. Antonio Ramos.

George James Dizikes, Los Angeles,  
Calif.

B.S.'72, M.S.'74, University of Illinois. Major: Microbiology. Minor: Biochemistry. Thesis: Plasmids in *Bacillus*: Possible Role in Aromatic Catabolism. Major Adviser: Prof. R.L. Crawford.

Clark A. Dobbs

B.A.'73, Indiana University; M.A.'79, University of Minnesota. Major: Anthropology. Minor: Supporting Program. Thesis: Oneota Settlement Patterns in the Blue Earth River Valley, Minnesota. Major Adviser: Prof. G.E. Gibbon.

Laure Dosso, France

Lic. '72, Mait. '73, University de Paris-Sud; Dipl.Ing. '75, Universite Louis Pasteur Strasbourg; DEA '77, Universite de Rennes. Major: Geology. Minor: Supporting Program. Thesis: The Nature of the Precambrian Subcontinental Mantle: Isotopic Study (Sr, Pb, Nd) of the Keweenawan Volcanism of the North Shore of Lake Superior. Major Adviser: Prof. V.R. Murthy.

Glenace Ecklund Edwall, St. Paul

B.A. with highest honors '73, Bethel College. Major: Educational Psychology. Minor: Supporting Program. Thesis: Interpropositional Comprehension: Effects of Semantic Distance and Schematic Embedding. Major Adviser: Prof. S.J. Samuels.

Eunice R. Eifert, River Forest, Ill.

B.A. with distinction '66, Valparaiso University; M.A.'68, University of Minnesota. Major: Theater Arts. Minor: Supporting Program. Thesis: The Fourth Wall Shattered: A Study of the Performer-Audience Relationship in Selected Full-Length Monodramas. Major Adviser: Prof. D.W. Thompson.

**Hayat Enbiyaoglu, Turkey**

B.A.'78, M.A.'79, Bogazici University. Major: Business Administration. Minor: Psychology. Thesis: Relationship Among Entrepreneur's Previous Experiences, Business Planning, Business Idea and Company Performance in the Courseware Industry. Major Adviser: Prof. A.K. Wickesberg.

**Khlefa Alarbe Esaklul, Tripoli,**

**Libya**

B.S.'76, M.S.'78, University of Minnesota. Major: Metallurgy and Materials Science. Minor: Supporting Program. Thesis: The Effect of Internal Hydrogen on Near-Threshold Fatigue Crack Propagation in Iron Base Systems. Major Adviser: Prof. W.W. Gerberich.

**Martin L. Fischer, St. Paul**

B.A.'76, M.S.'77, University of Minnesota. Major: Agricultural Economics. Minor: Economics. Thesis: Financing Agricultural Cooperatives: Economic Issues and Alternatives. Major Adviser: Prof. J.W. Hammond.

**Gary L. Fischler, Brooklyn, N.Y.**

B.A. cum laude '77, University of Rochester. Major: Psychology. Minor: Supporting Program. Thesis: Qualitative and Process Measures of Social-Cognitive Problem-Solving Skills in Elementary School Children: Relationships with Social and Emotional Adjustment. Major Adviser: Prof. P.C. Kendall.

**Nadya A. Fouad, Minneapolis**

B.S. with distinction '77, Iowa State University. Major: Psychology. Minor: Supporting Program. Thesis: Comparison of Interests Across Cultures. Major Advisers: Profs. J.C. Hansen and R.V. Dawis.

**Patrick John Frenchick, Pepin, Wis.**

B.S.'75, University of Minnesota. Major: Veterinary Microbiology. Minor: Biochemistry. Thesis: Immunologic and Pathogenic Aspects of *Brucella* Species. Major Adviser: Prof. C.C. Muscoplat.

**Edward Odell Fryar, Jr., Waldron,  
Ark.**

B.A.'75, M.S.'77, University of Arkansas. Major: Agricultural Economics. Minor: Economics. Thesis: Edible Vegetable Oil Prices in the United States and World Markets. Major Adviser: Prof. J.P. Houck.

**Roy Arvid Glover, Frederick, S.D.**

B.A. cum laude '70, St. John's University; M.A.'72, University of Minnesota. Major: American Studies. Thesis: Josiah Royce and William James: Philosophers of the Community and the Individual. Major Adviser: Prof. R.A. Delattre.

**Joseph Herbert Hartman**

B.S. with honors '72, University of Wisconsin, Milwaukee; M.S.'76, University of Minnesota. Major: Geology. Minor: Supporting Program. Thesis: Systematics, Biogeography, and Biostratigraphy of Uppermost Cretaceous and Early Tertiary Viviparidae (Mollusca, Gastropoda) of Southern Saskatchewan, Western North Dakota, Eastern Montana, and Northern Wyoming. Major Advisers: Profs. F.M. Swain and R.E. Sloan.

**Ann-Charlotte Hanes Harvey,  
Stockholm, Sweden**

B.A.'62, Scripps College; M.A.'72, University of Minnesota. Major: Theater Arts. Minor: Supporting Program. Thesis: Strindberg's Symbolic Room: Commanding Form for Set Design in Selected Strindberg Scripts 1887-1907. Major Adviser: Prof. Wendell Josal.

**George Arthur Henly, St. Paul**

B.S. with distinction '72, University of Minnesota. Major: Psychology. Minor: Supporting Program. Thesis: The Prediction of Vocational Preference, Inventoried Interests, and Expectation of Satisfactory Performance: A Test of an Individual-Occupational Correspondence Model Based upon the Theory of Work Adjustment. Major Adviser: Prof. R.V. Dawis.

**Jeanne Goodman Herzog, St. Paul**

B.A. summa cum laude '76, University of Rochester. Major: Psychology. Minor: Supporting Program. Thesis: Life Events as Indices of Family Stress: Relationships with Children's Current Levels of Competence. Major Adviser: Prof. Norman Garnezy.

**Robert Arthur Hill, St. Louis, Mo.**

B.A.'73, Gettysburg College; M.S.'77, Pennsylvania State University. Major: Agricultural Economics. Minor: Economics. Thesis: An Analysis of the Economic Structure of Rice Production in the Dominican Republic. Major Adviser: Prof. T.L. Roe.

**William Leo Hohman, White Bear  
Lake**

B.S.'73, St. John's University; M.S.'77, University of North Dakota. Major: Wildlife. Minor: Supporting Program. Thesis: Aspects of the Breeding Biology of Ring-Necked Ducks (*Aythya collaris*). Major Adviser: Prof. M.W. Weller.

**Clarence H. Horn, Wichita, Kan.**

B.S.'65, M.S.'70, Emporia State University; Sp.Ed.'77, Wichita State University. Major: Education. Minor: Supporting Program. Thesis: Relationships Among Measures of Cognitive Processes in Preservice Teachers, Their Preferred Conditions for Learning and Their Orientation Toward Teaching. Major Adviser: Prof. K.R. Howey.

Joanne Lynn Horwood, Columbus,  
Ohio  
B.S.B.A. cum laude '76, Ohio State University.  
Major: Business Administration. Minor: Economics.  
Thesis: The Role of Economic Profits in Risk  
Determination. Major Adviser: Prof. J.W. Dick-  
haut.

Brenda Gale Hunter, Austin  
B.A. with highest honor '77, Hamline University.  
Major: Genetics. Minor: Supporting Program.  
Thesis: Examination of the Heterogeneity Among  
Maize rDNA Repeats and Preliminary Analysis of  
the Transcription of the rDNA. Major Adviser:  
Prof. Irwin Rubenstein.

Jonathan Mark Hurwitz, Grinnell,  
Iowa  
B.A. with highest distinction, honors '77, Indiana  
University. Major: Political Science. Minor: Sup-  
porting Program. Thesis: Social Judgement The-  
ory, Issue Emotionalism, and Strategies of Legisla-  
tive Decision-Making. Major Adviser: Prof. J.L.  
Sullivan.

Takanobu Ikeda, Osaka, Japan  
B.A. '72. M.A. '74, Keio University. Major: Econ-  
omics. Minor: Supporting Program. Thesis: On  
the Highest Degree of Smoothness of Outcome  
Functions Compatible with Quantity Constrained  
Equilibrium Non-Walrasian Performance. Major  
Adviser: Prof. Leonid Hurwicz.

Bahman Kalantari, Tehran, Iran  
B.S. '75, Wisconsin State University; M.S. '79,  
M.S. '83, University of Minnesota. Major: Com-  
puter and Information Sciences. Minor: Support-  
ing Program. Thesis: Large Scale Global Minimiza-  
tion of Linearly Constrained Concave Quadratic  
Functions and Related Problems. Major Adviser:  
Prof. J.B. Rosen.

Dimitris L. Karabalis, Lefkas,  
Greece  
Dipl. '77, National Technical University of Athens;  
M.S.C.E. '80, University of Minnesota. Major:  
Civil Engineering. Minor: Supporting Program.  
Thesis: Dynamic Response of Three-Dimensional  
Foundations. Major Adviser: Prof. I.G. Vardou-  
lakis.

Haroon S. Khashgi, Glenview, Ill.  
B.S. with distinction '78, University of Illinois.  
Major: Chemical Engineering. Minor: Supporting  
Program. Thesis: The Motion of Viscous Liquid  
Films. Major Adviser: Prof. L.E. Scriven.

Stephen F. Kistler, Zurich,  
Switzerland  
Dipl. '77, Swiss Federal Institute of Technology.  
Major: Chemical Engineering. Minor: Supporting  
Program. Thesis: The Fluid Mechanics of Curtain  
Coating and Related Viscous Free Surface Flows  
with Contact Lines. Major Adviser: Prof. L.E.  
Scriven.

**March**

Dale Joseph Kliner, St. Paul  
B.A. summa cum laude '76, University of Minne-  
sota. Major: Psychology. Minor: Supporting Pro-  
gram. Thesis: The Effects of Food Deprivation, FR  
Size and Drug Concentration on Oral Pentobarbi-  
tal Self-Administration Behavior in Rhesus Mon-  
keys. Major Adviser: Prof. T.I. Thompson.

Nancy Kobrin, St. Paul  
B.A. with distinction '69, Indiana University;  
B.J.S. '75, Spertus College of Judaica; M.A. '71,  
Roosevelt University. Major: Comparative Litera-  
ture. Thesis: A Critical Transcription and Semiotic  
Analysis of Eight Aljamiado Legends of the Morisco  
Figura of Muucaa. Major Advisers: Profs. Wladys-  
law Godzich and R.W. Sousa.

Claire Ann Kolmodin, St. Paul  
B.A. summa cum laude '74, Bethel College. Major:  
Psychology. Minor: Supporting Program. Thesis: A  
Study of the Factors Relating to Employee Move-  
ment Within and Between Organizations. Major  
Adviser: Prof. J.P. Campbell.

Donna Alexander Lander,  
Perrysburg, Ohio  
B.A. with distinction '63, Moorhead State Univer-  
sity; M.Ed. '71, Kutztown State College. Major:  
Educational Administration. Minor: Supporting  
Program. Thesis: An Analysis of the Adequacy of  
"Excess Cost" Formulas of Selected States in Meet-  
ing Revenue Requirements for Special Education  
Services in Six Selected Minnesota School Dis-  
tricts. Major Advisers: Profs. N.C. Nickerson and  
C.H. Sederberg.

JoAnne Deborah Liebman-Kleine,  
Little Rock, Ark.  
B.A. '77, Kirkland College; M.A. '80, University of  
Minnesota. Major: English. Minor: Supporting  
Program. Thesis: Reading, Writing, and Thinking:  
Toward Developing a Problem-Solving Theory of  
Reading Literary Narrative. Major Adviser: Prof.  
Donald Ross, Jr.

Li-Jen Teresa Lin, Taipei, Taiwan  
B.Ed. '76, Taiwan Provincial College of Education.  
Major: Physics. Minor: Internal. Thesis: Tunneling  
into the Magnetic Superconductor ErRh<sub>4</sub>B<sub>4</sub>. Ma-  
jor Adviser: Prof. A.M. Goldman.

Frederick Vincent Linse, Denton,  
Mont.  
B.S. '69, M.S. '71, Montana State University. Ma-  
jor: Agricultural Economics. Minor: Economics.  
Thesis: Implications of Price Risk for Price Support  
Loan Demand. Major Advisers: Profs. T.L. Roe  
and W.B. Sundquist.

Lurline Elaine Marsh, Jamaica  
B.S. '76, University of West Indies; M.S. '79, Tus-  
kegee Institute. Major: Horticulture. Minor: Plant  
Breeding. Thesis: High Temperature Stress Stud-  
ies in Phaseolus. Major Adviser: Prof. D.W. Davis.

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**Chinenye Mazi-Iheme, Acha-  
Isuikwuato, Nigeria**

B.A. '74, Hamline University; M.A. '74, Ohio University. Major: Education. Minor: Supporting Program. Thesis: The Impact of International Cooperation in Education on ECOWAS Nations' Foreign Educational Policy. Major Adviser: Prof. A.D. Glenn.

**Michael Francis McGuiggan,  
Marshall**

B.A. '77, Southwest State University. Major: Chemistry. Minor: Supporting Program. Thesis: Catalytic Reactions of Rhodium and Ruthenium Phosphine Complexes. Major Adviser: Prof. L.H. Pignolet.

**Crystal Kathryn Meriwether, Foley**

B.S. with distinction '69, University of Minnesota; M.A. '78, San Jose State University. Major: Educational Administration. Minor: Supporting Program. Thesis: Women in Educational Administration in Israel and the United States. Major Adviser: Prof. N.C. Nickerson.

**Peter Jack Moxhay, Rye, N.Y.**

B.S. magna cum laude '77, Brown University. Major: Physics. Minor: Internal. Thesis: Relativistic Corrections to Electric-Dipole Transition Rates in Quark-Antiquark Bound States. Major Adviser: Prof. J.L. Rosner.

**Prema Narayan, India**

M.S. '82, University of Minnesota. Major: Biochemistry. Minor: Supporting Program. Thesis: Transcriptional and Post-Transcriptional Regulation of a Thyroid Hormone Responsive mRNA. Major Advisers: Profs. H.P. Hogenkamp and H.C. Towle.

**William Thomas Nichol II, St.  
Joseph**

B.A. magna cum laude '67, Carleton College; M.A. '68, Harvard University; M.Div. '71, McCormick Theological Seminary; M.A. '72, University of Denver. Major: Library Science. Minor: Supporting Program. Thesis: Catholic Subject Headings Investigation of Use in Catholic College and University Libraries and Comparison to Library of Congress Subject Headings. Major Adviser: Prof. W.C. Simonton.

**Kathryn Louise Norsworthy,  
Minneapolis**

B.S.Ed. summa cum laude '75, Georgia Southwestern University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Children's Interpretation of Contingencies from a Cognitive Behavioral Perspective. Major Adviser: Prof. F.H. Wood.

**Alfonso Novales, Saragossa, Spain**

Lic. '64, Universidad de Zaragoza; M.A. '82, University of Minnesota. Major: Economics. Minor: Statistics. Thesis: Some Stochastic Equilibrium Models of the Interest Rate. Major Adviser: Prof. C.A. Sims.

**Paul John Ostendorf, Winona**

B.A. cum laude '53, M.A. '59, St. Mary's College; M.A. '64, College of St. Thomas; M.A. '73, Rosary College. Major: Library Science. Minor: Supporting Program. Thesis: The History of the Public Library Movement in Minnesota from 1849 to 1916. Major Adviser: Prof. M.N. Maack.

**Halit Hami Oz, Turkey**

D.V.M. '77, University of Istanbul; M.S. '81, University of Illinois. Major: Veterinary Medicine. Minor: Supporting Program. Thesis: Analysis of Growth Rate of Gram Positive Mastitic Pathogenic Bacteria Entering Bulk Tank at Different Milkings. Major Adviser: Prof. R.J. Farnsworth.

**Washington A. Padilla**

Ing.Agr. '72, Central University of Ecuador; M.S. '76, North Carolina State University. Major: Soil Science. Minor: Supporting Program. Thesis: Relationship Between Erosion and Soil Physical Properties of Temperate and Tropical Soils. Major Adviser: Prof. W.E. Larson.

**Jorge Guilherme Sarcinelli Patiño,  
Rio de Janeiro, Brazil**

Eng.Quim. '78, Universidade Federal do Rio de Janeiro. Major: Mechanics. Minor: Mathematics. Thesis: On the Thermostatistics and Thermodynamics of Mixtures and Open Systems. Major Adviser: Prof. R.L. Fosdick.

**Mark Alan Peffley**

B.A. '77, Indiana University. Major: Political Science. Minor: Supporting Program. Thesis: Economic Fluctuations and Political Behavior. Major Adviser: Prof. J.L. Sullivan.

**John Frederick Pepple, Minneapolis**

B.Math. with high distinction '73, University of Minnesota. Major: Philosophy. Minor: Supporting Program. Thesis: An Ambivalence in Plato's Theory of Forms. Major Adviser: Prof. S.L. Peterson.

**Theodore S. Petroulas, Athens,  
Greece**

Dipl. '78, National Technical University of Athens. Major: Chemical Engineering. Minor: Supporting Program. Thesis: A Counter Current Moving Bed Chromatographic Reactor. Major Adviser: Prof. R.W. Carr, Jr.

**Justin B. Powlowski, Canada**

B.S.'79, McGill University. Major: Biochemistry. Minor: Chemistry. Thesis: Enzymology of Anthranilic Acid and Cresol Degradation by *Trichosporon cutaneum*. Major Adviser: Prof. Stanley Dagley.

**Michael Hale Reed, Spokane, Wash.**

B.A.'66, Eastern Washington State College. Major: Philosophy. Minor: Supporting Program. Thesis: Cognition and Explanation: Artificial Intelligence and the Philosophy of Mind. Major Adviser: Prof. Keith Gunderson.

**Lucinda Ellen Reichley, Somerset, Ohio**

B.A. cum laude '78, Capital University. Major: Chemistry. Minor: Supporting Program. Thesis: The Process of Solvent Interchange for Solventopentaamminecobalt (III) Complexes in Mixed Solvent Systems. Major Adviser: Prof. W.L. Reynolds.

**Derry Charles Roopenian, Minneapolis**

B.A. cum laude '72, University of Vermont. Major: Pathobiology. Minor: Cell and Developmental Biology. Thesis: Functional and Immunogenetic Analysis of Minor Histocompatibility Antigen-Reactive Cloned T. Lymphocytes. Major Adviser: Prof. F.H. Bach.

**Krishna Agung Santosa, Yogyakarta, Indonesia**

Ir.'72, Universitas Gadjah Mada; M.S.'77, University of the Philippines. Major: Animal Science. Minor: Supporting Program. Thesis: Protein and Fiber Studies in Ruminant Animals. Major Adviser: Prof. R.D. Goodrich.

**Soumyendranath Sikdar, Chinsupa, India**

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B.S.Pharm. with high distinction '76, Pharm.D.'77, University of Minnesota. Major: Pharmacy Administration. Minor: Supporting Program. Thesis: Evaluation of the Drug Selection Process in the Treatment of Essential Hypertension. Major Adviser: Prof. A.U. Wertheimer.

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M.S.'71, Mysore University. Major: Food Science. Minor: Supporting Program. Thesis: Encapsulation, Analysis and Stability of Orange Peel Oil. Major Adviser: Prof. G.A. Reineccius.

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B.A. cum laude '74, Carleton College. Major: Ecology. Minor: Supporting Program. Thesis: The Paucity of Blue-Green Algae in Meromictic Brownie Lake: Iron Limitation or Heavy-Metal Toxicity? Major Adviser: Prof. Joseph Shapiro.

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B.Law '64, Yonsei University; M.A.'79, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: Dynamic Analysis of Korea's College-Educated Manpower Policy and Design of the Stable Manpower Production System. Major Adviser: Prof. W.M. Ammentorp.

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B.A.'65, University of Michigan; M.A.'81, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: An Investigation of the Construct Validity of Several Measures of Proneness to Shame Using a Multitrait-Multimethod Matrix. Major Adviser: Prof. A.E. Anderson.

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B.A. cum laude '78, Lafayette College. Major: Genetics. Minor: Supporting Program. Thesis: Satellite DNA Associated Chromosomal Proteins in *Drosophila virilis*. Major Adviser: Prof. Martin Blumenfeld.

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B.A.'76, University of California, Irvine; M.A.'80, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: Counseling Experience, Moral Judgement, Awareness of Consequences, and Moral Sensitivity in Counseling Practice. Major Adviser: Prof. J.R. Rest.

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B.Ed. with second class honors '72, M.S.'80, University of Minnesota. Major: Cell and Developmental Biology. Minor: Supporting Program. Thesis: Cytolytic T Lymphocyte and Antibody Responses to Peptides of Influenza Virus Hemagglutinin. Major Adviser: Prof. D.P. Fan.

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B.S. with honors '78, University of Birmingham. Major: Geophysics. Minor: Supporting Program. Thesis: Two-Dimensional Velocity Anomaly Reconstruction by Seismic Tomography. Major Adviser: Prof. H.M. Mooney.

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B.A. with honors '79, Drake University. Major: Chemistry. Minor: Supporting Program. Thesis: Studies of Organic Ion-Molecule Reactions by Ion Cyclotron Resonance Spectroscopy. Major Adviser: Prof. D.A. Dixon.

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B.S. '78, University of Nevada; M.S. '80, Utah State University. Major: Forestry. Minor: Supporting Program. Thesis: Cognitive Dimensions of Recreation Engagements: A Developmental Analysis of Recreation Participation. Major Adviser: Prof. L.C. Merriam.

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Edward Ralph Wuori, Hibbing

B.E.E. '65, M.S.E.E. '70, University of Minnesota. Major: Electrical Engineering. Minor: Mathematics. Thesis: Magnetization Reversal Mechanisms in Sputtered CoCr Films with Perpendicular Magnetic Anisotropy. Major Adviser: Prof. J.H. Judy.

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B.A. '71, M.A. '74, University of Minnesota. Major: Anthropology. Minor: Supporting Program. Thesis: Ideology, Policy, and Identity: Family Planning in a Yemenite Community in Israel. Major Adviser: Prof. S.F. Gudeman.

### Doctor of Philosophy in Otolaryngology

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M.D. '78, University of Manitoba. Major: Otolaryngology. Minor: Supporting Program. Thesis: Experimental Endolymphatic Hydrops: A Study of Alterations in Cochlear Function. Major Adviser: Prof. Tetsuo Morizono.

### Master of Architecture

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B.A. cum laude '79, University of Utah. Major: Architecture. Thesis: Condominium Hotel in Jackson Hole, Wyoming. Major Adviser: Prof. R.D. Clemence.

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B.S. '77, University of Wisconsin, Milwaukee. Major: Architecture. Thesis: Resetting Suburbia: A Future for St. Louis Park. Major Adviser: Prof. R.D. Clemence.

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B.A. '66, University of Minnesota. Major: Architecture. Thesis: An Energy Efficient, Medium Security Prison Facility for a City Environment. Major Adviser: Prof. R.D. Clemence.

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B.S.Ed. '73, University of North Dakota. Major: Architecture. Thesis: Family Learning Center: A Childcare Facility for Downtown Minneapolis. Major Adviser: Prof. R.D. Clemence.

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B.A. '81, Iowa State University. Major: Architecture. Thesis: Adaptive Reuse of Marshall University High School, Minneapolis, Minnesota. Major Adviser: Prof. R.D. Clemence.

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sota. Major: Business Administration. Major Ad-  
viser: Prof. R.B. Upton.

Julie Marie Houghton, St. Paul  
B.S.C. '72, St. Louis University. Major: Business  
Administration. Major Adviser: Prof. R.B. Upton.

James David Ingebrand,  
Minneapolis  
B.S. '79, University of Minnesota. Major: Business  
Administration. Major Adviser: Prof. R.B. Upton.

Nels Elmer Kempainen, Jr.,  
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B.M.E. with distinction '77, University of Minne-  
sota. Major: Business Administration. Major Ad-  
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Paul W. Kruse II, Minneapolis  
B.A. '77, University of Notre Dame. Major: Busi-  
ness Administration. Major Adviser: Prof. R.B.  
Upton.

Dominic Ho Ming Li  
B.S.B. '81, University of Minnesota. Major: Busi-  
ness Administration. Major Adviser: Prof. R.B.  
Upton.

Eric Roger Lind, Minneapolis  
B.A. '72, University of Minnesota. Major: Business  
Administration. Major Adviser: Prof. R.B. Upton.

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B.A. '77, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Tani Kathleen Maruyama  
B.S. '78, Iowa State University. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Brien Sherman Peterson,  
Mahtomedi  
B.S.B. '72, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Bipin Kishore Prasad, Rourkela,  
India  
B.Tech. with first class honors '80, Indian Institute of Technology. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Michael Howard Roberts, Maple  
Grove  
B.S.B. '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. D.V. Harper.

Thomas Joseph Roeller, St. Paul  
B.S.B. with high distinction '81, B.A. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Paula Jeanne Ryan, Wayzata  
B.S.B. with high distinction '78, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Adelson Souza Santos, Ilheus,  
Bahia, Brazil  
Lic. '71, Faculdade de Filosofia de Itabuna. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Daniel Raymond Sass, Waseca  
B.S. cum laude '80, St. Cloud State University. Major: Business Administration. Major Adviser: Prof. N.L. Chervany.

Randy Earl Schwartzhoff, Plainview  
B.S. with distinction '75, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Michael Paul Stanko  
B.S. with distinction '81, Ohio State University. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Harry L. Summitt, Minneapolis  
B.S.C.E. '74, Iowa State University. Major: Business Administration. Major Adviser: Prof. N.L. Chervany.

P. Dean Surbey, Shoreview  
B.A. summa cum laude '77, Washington University. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Ronald Dean Sykes, Cable, Wis.  
B.B.A. '81, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Mary Townswick  
B.A. magna cum laude '75, Luther College. Major: Business Administration. Major Adviser: Prof. N.L. Chervany.

Virginia Leigh Vann, Atlanta, Ga.  
A.B.J. cum laude '75, University of Georgia. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Mary Keating Witzel, Minneapolis  
B.Ch.E. '76, University of Minnesota. Major: Business Administration. Major Adviser: Prof. N.L. Chervany.

Douglas Robert Wogstad,  
Minneapolis  
B.S.M.E. '68, Northwestern University. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

Stella Y. Wong  
B.B.A. '77, University of Wisconsin, Eau Claire. Major: Business Administration. Major Adviser: Prof. W.B. Erickson.

Alan F. Yapp, Lino Lakes  
B.S.B. '68, University of Minnesota. Major: Business Administration. Major Adviser: Prof. R.B. Upson.

## Master of Business Administration UNIVERSITY OF MINNESOTA, DULUTH

Michael James Morris  
B.A. '81, University of Minnesota. Major: Business Administration. Major Adviser: Prof. D.W. Ireland.

Nancy Ann Norman  
B.A. summa cum laude '71, M.A. '72, University of Minnesota. Major: Business Administration. Major Adviser: Prof. Stephen Rubinfeld.

## Master of Business Taxation

Gregory Scot Blackwood  
B.S.B.'80, University of Minnesota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Gregory Michael Braun, St. Paul  
B.A. magna cum laude '77, University of Minnesota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

James J. Duevel, Falcon Heights  
B.S.B.'79, University of Minnesota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

David Robin Engfer, St. Paul  
B.F.A.'74, Minneapolis College of Art and Design. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Kenneth James Fowler, Mankato  
B.S.'78, Mankato State University. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Susan Olivia Greulich, Burnsville  
B.B.A.'74, University of Wisconsin, Milwaukee. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Brian L. Knutson, Minneapolis  
B.S.B. with distinction '77, University of Minnesota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

William James Kryshak, Minneapolis  
B.S.'79, Mankato State University. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Leo Charles Neuman, St. Paul  
B.S.'78, St. John's University. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

James V. O'Halloran, Jr., Burnsville  
B.S.'76, Mankato State University. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Catherine Ann Qualseth, Sioux Falls, S.D.  
B.A. cum laude '77, Augsburg College. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Reid Gregory Sandler  
B.S.B.'74, University of Minnesota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

Mark L. Wilde, Cottage Grove  
B.A. cum laude '80, Northern State College, South Dakota. Major: Business Taxation. Major Adviser: Prof. F.R. Jacobs.

## Master of Civil Engineering

Joseph G. Pasma, Minneapolis  
B.C.E.'82, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Project: Design of 41-Story Steel Frame Using LRFD. Major Adviser: Prof. T.V. Galambos.

Christopher Fredrick Thompson, Excelsior  
B.C.E.'81, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Project: Shoreline Control of Tahoe Island. Major Adviser: Prof. C.C. Song.

## Master of Fine Arts

Judy Lee Bender, Anoka  
B.S. with high honors '64, St. Cloud State University. Major: Music. Minor: Related Fields. Major Adviser: Prof. Lawrence Weller.

Karen Ann Berg-Johnson, Bloomington  
B.F.A. summa cum laude '81, University of Minnesota. Major: Studio Arts. Minor: Art History. Major Adviser: Prof. G.L. Hallman.

Anne Stringer DeCoster, St. Paul  
B.A.'55, Middlebury College. Major: Studio Arts. Minor: Related Fields. Major Adviser: Prof. H.T. Rowan.

Nancy Jane Ortmeier, Fort Dodge, Iowa  
B.S.S. magna cum laude '78, Cornell College. Major: Music. Minor: Related Fields. Major Adviser: Prof. Heinrich Fleischer.

Marcia Ann Young  
B.A.'78, College of St. Catherine. Major: Music. Minor: Related Fields. Major Adviser: Prof. D.C. Ware.

## Master of Planning

José Rente Nascimento, Brasilia,  
Brazil

Eng. Florestal '78, Universidad Federal de Vicosa.  
Major: Planning. Major Adviser: Prof. R.C.  
Einsweiler.

## Master of Science

Norma Cathryn Bailie

B.V.M.S. '78, University of Glasgow. Major: Veterinary Medicine. Minor: Related Fields. Thesis: Evaluation of the Effect of Acetohydroxamic Acid on Fertility and Teratogenicity in Normal Beagle Dogs. Major Adviser: Prof. C.A. Osborne.

LaVonne Marie Olson Batalden

B.A. summa cum laude '63, Augsburg College. Major: Botany. Minor: Related Fields. Thesis: A Cyclopentenone in Some Genera of the Boletales. Major Adviser: Prof. D.J. McLaughlin.

Brian Paul Beecken, Bloomingdale,  
Ill.

B.A. with highest honor '80, Elmhurst College. Major: Physics. Minor: Related Fields. Thesis: Fabrication of Small Orifices in Thin Films. Major Adviser: Prof. William Zimmermann, Jr.

H. Daniel Billings, Red Wing

B.S. with distinction '81, University of Minnesota. Major: Forestry. Minor: Soil Science. Major Adviser: Prof. Vilis Kurmis.

Cynthia Anne Blaha, St. Paul

B.Phys. with distinction '80, B.S. Astrop. with high distinction '80, University of Minnesota. Major: Astronomy. Minor: Physics. Thesis: Luminous Blue Variables in M31 and M33. Major Adviser: Prof. R.M. Humphreys.

Lakhdar Boukerrou, Algeria

Ing. Apl. '74, Institut de Technologie Agricole of Mostaganem. Major: Plant Breeding. Minor: Related Fields. Thesis: Evaluation of the Use of Specific Gravity for Selection of High Oil Content in Early Generations of Flax (*Linum usitatissimum* L.). Major Adviser: Prof. V.E. Comstock.

Susan Leu Cooper, Roseville

B.S. '79, University of Wisconsin, Madison. Major: Social and Administrative Pharmacy. Minor: Related Fields. Major Adviser: Prof. A.I. Wertheimer.

Barbara Corwin Davenport, White  
Bear Lake

B.S.N. summa cum laude '81, University of Michigan. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dincen.

Satyendra Dhingra, Kanpur, India

B.Tech. '79, Indian Institute of Technology; M.E. '82, Technical University of Nova Scotia. Major: Computer and Information Sciences. Minor: Electrical Engineering. Major Adviser: Prof. R.Y. Kain.

Theodore James Diedrick, La  
Grange, Ohio

B.S. Agr. cum laude '79, Ohio State University. Major: Plant Breeding. Minor: Related Fields. Thesis: Characterization of LTR 19: A Threonine Overproducing Mutant in Maize. Major Adviser: Prof. C.E. Green.

Harry Norman Drager, Edina

B.S. '77, University of Minnesota. Major: Food Science. Minor: Related Fields. Thesis: Influence of Storage Environment upon Imbibition and Thermal Softening of Adzuki Beans (*Vigna angularis*). Major Adviser: Prof. W.M. Breene.

Paul Duane Emerson, Fort Collins,  
Colo.

B.S. '80, Colorado State University. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. O.R. Ruschmeyer.

Masaru Endo, Tokyo, Japan

B.A. '79, International Christian University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. Maria Gini.

Julie Ann Federico, Wollaston, Mass.

B.S. with honors '82, Northeastern University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. J.V. Carlis.

Diane S. Fedorchak, Salt Lake  
City, Utah

B.S.N. '77, Indiana University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.A. Sodergren.

Cindy Lou Feil

B.S. with distinction '79, University of Minnesota. Major: Agronomy. Minor: Related Fields. Major Adviser: Prof. R.K. Crookston.

Mark William Galatowitsch, South  
St. Paul

B.A. '80, St. Mary's College. Major: Plant Physiology. Minor: Horticulture. Thesis: In Vitro Propagation of *Erythronium albidum* Nutt. and *Erythronium propullans* Gray. Major Adviser: Prof. P.E. Read.

Janine Rae Gleason, New  
Richmond, Wis.

B.S. '79, University of Wisconsin, Madison. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. J.B. Stevens.

Karen Marie Goeke, Rochester

B.S.N. '78, University of Illinois. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. M.L. Duxbury.

Maria Margarita Gomez, Bogotá,  
Colombia

Dipl. '80, Universidad de los Andes. Major: Food Science. Minor: Biochemistry. Major Adviser: Prof. S.R. Tatini.

Michael Jerome Haasl, Minneapolis

B.A. summa cum laude '74, St. John's University. Major: Nutrition. Minor: Anthropology. Major Adviser: Prof. D.A. Savaiano.

Gregg Gerard Hipple, Minneapolis

D.D.S. '82, University of Michigan. Major: Dentistry. Minor: Related Fields. Thesis: Long-Term Postretention Stability of the Lower Incisor Segment Following Edgewise Orthodontics. Major Adviser: Prof. T.M. Speidel.

Lee Wesley Houck, Fridley

B.A. cum laude '78, Augsburg College. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. J.V. Carlis.

Tracy S. Hunter

B.S. '75, M.S. '80, University of Arkansas. Major: Social and Administrative Pharmacy. Minor: Related Fields. Major Adviser: Prof. L.C. Weaver.

Maureen Ruth Kilkenny

B.A. '79, University of California, Davis. Major: Agricultural and Applied Economics. Minor: Related Fields. Thesis: An Economic Assessment of Biological Nitrogen Fixation in a Farming System of S.E. Minnesota. Major Adviser: Prof. D.E. Welsh.

Terry Jim Klampe, Rochester

B.S. '74, University of Minnesota. Major: Oral Biology. Minor: Nutrition. Major Adviser: Prof. H.H. Messer.

Bibo Kouable, Gohitafla, Ivory Coast  
Dipl. Agron. Gen. '81, Ecole Nationale Supérieure Agronomique. Major: Entomology. Minor: Related Fields. Thesis: Changes in Weight, Protein, Oil, and Moisture Composition of Shelled Corn Infested with the Larger Grain Borer, *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae). Major Adviser: Prof. L.K. Cutkomp.

Kay Buchanan Krause, Woodbury

B.A. cum laude '74, University of Minnesota, Duluth. Major: Nursing. Minor: Related Fields. Thesis: A Study of the Effect of Nursing Unit Technology on the Predictive Validity of a Patient Classification System. Major Adviser: Prof. S.R. Edwardson.

Eric William Kurman, Valparaiso,  
Ind.

B.A. '79, Indiana University. Major: Metallurgy and Materials Science. Minor: Physics. Thesis: Electrotransport of Hydrogen and Deuterium in a Titanium-Molybdenum Alloy. Major Adviser: Prof. R.A. Oriani.

Mary Elizabeth Learmont, Warba

B.M.E. with distinction '82, University of Minnesota. Major: Mineral Engineering. Minor: Business Administration. Thesis: The Effect of Grinding Media on Flotation of Galena. Major Adviser: Prof. Iwao Iwasaki.

Charlene Rene Leibold, Grand  
Forks, N.D.

B.S. with distinction '78, University of Minnesota. Major: Animal Science. Minor: Related Fields. Major Adviser: Prof. W.E. Rempel.

Emelia M. Lincowski, White Bear  
Lake

B.S. '76, University of Maryland. Major: Horticulture. Minor: Plant Pathology. Major Adviser: Prof. J.P. McKinnon.

Bruce Robinson Lindgren,  
Minneapolis

B.S. with distinction '76, University of Minnesota. Major: Biometry and Health Information Systems. Minor: Related Fields. Major Adviser: Prof. J.R. Boen.

Qi Lu, Shanghai, China

Grad. '75, Jilin University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. W.D. Munro.

Marc Robert Lussier, Minneapolis

B.A. '81, Carleton College. Major: Physiology. Minor: Biochemistry. Thesis: A Study of Blood Flow in Transplanted and Replanted Saphenous Free Flaps. Major Adviser: Prof. M.W. Meyer.

- Stephen McCormick Mabley,**  
Minneapolis  
B.S. '79, B.A. '79, University of Minnesota. Major: Environmental Health. Minor: Epidemiology. Major Adviser: Prof. J.B. Stevens.
- Maureen Cecile Mahoney, Duluth**  
B.S.N. '64, Marycrest College. Major: Nursing. Minor: Related Fields. Thesis: Prevalence of Methicillin-Resistant Staphylococcus Aureus in Northern Minnesota, Wisconsin and Michigan: A Descriptive Study. Major Adviser: Prof. Sandra Edwardson.
- Anthony A. Manoukian, Los Altos Hills, Calif.**  
B.S. '74, University of California, Davis. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. O.R. Ruschmeyer.
- Andrea Kay Marg, Marion, Iowa**  
B.A. '76, Coe College. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Patricia Crisham.
- Laura Jeanne Mauro, Farmingdale, N.Y.**  
B.S. magna cum laude '80, SUNY College of Environmental Science and Forestry. Major: Veterinary Physiology. Minor: Related Fields. Thesis: Physiological and Biochemical Responses of the Red-Tailed Hawk (*Buteo jamaicensis*) During Food and Water Deprivation. Major Adviser: Prof. G.E. Duke.
- Robert Edward McCulloch**  
B.S. with high distinction '81, University of Toronto. Major: Statistics. Minor: Related Fields. Major Adviser: Prof. Seymour Geisser.
- Christine Elva McKeon, Rochester**  
B.S.N. '79, University of St. Thomas. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dineen.
- Patrick David Miles, St. Paul**  
B.S. with distinction '81, University of Minnesota. Major: Forestry. Minor: Related Fields. Major Adviser: Prof. P.V. Ellefson.
- Mesfin Mirotchie, Ethiopia**  
B.A. '79, Trinity Western College; B.Agr. B.A. '81, University of Minnesota. Major: Agricultural and Applied Economics. Minor: Related Fields. Thesis: Comparative Study of the Economics of the Reduced Tillage Systems with Respect to the Conventional Tillage System. Major Adviser: Prof. J.W. Hammond.
- Scott Lawrence Murchie,**  
Leominster, Mass.  
B.S. magna cum laude '81, Colby College. Major: Geology. Minor: Related Fields. Thesis: 210Pb Dating and Recent Geologic History of Two Bays of Lake Minnetonka, Minnesota. Major Adviser: Prof. H.E. Wright.
- Evan Lloyd Nelson, Albuquerque, N.M.**  
B.S. '74, University of New Mexico; M.P.H. '80, University of Minnesota. Major: Epidemiology. Minor: Related Fields. Major Adviser: Prof. J.S. Mandel.
- Ejobona Michael Oju, Ozoro, Nigeria**  
B.S. summa cum laude '79, University of Maryland. Major: Animal Science. Minor: Related Fields. Thesis: Protein, Methionine and Lysine Requirements of Growing Female Turkeys Under Various Environmental Temperatures. Major Adviser: Prof. P.E. Waibel.
- Ruth Oldroyd**  
B.S. with distinction '74, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Kathleen Maykoski.
- Fayola Marie Olson**  
B.S. cum laude '80, Bemidji State University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Mariah Snyder.
- Craig Frederick Palmer, Johnston, R.I.**  
B.S. with highest honors '82, Northeastern University, Boston. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. S.C. Bruell.
- Jane Marie Persoon, St. Paul**  
B.S.N. '72, College of St. Catherine. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. B.M. Feldman.
- Milton Lavern Petersen, Adair, Iowa**  
B.S. with distinction '81, Iowa State University of Science and Technology. Major: Animal Science. Minor: Statistics. Thesis: Correlated Response in Conformation and Milking Characteristics and Their Relationships Following Selection for Milk Yield. Major Adviser: Prof. L.B. Hansen.
- Charles Leonard Peterson,**  
Bergenfield, N.J.  
B.S. with high honor '72, Stevens Institute of Technology. Major: Mathematics. Minor: Related Fields. Major Adviser: Prof. H.F. Weinberger.

**Andrew Carleton Phillips**

B.S.'77, University of Arizona. Major: Astronomy. Minor: Physics. Thesis: A Study of Faint Red Stars at High Galactic Latitudes. Major Adviser: Prof. R.M. Humphreys.

**David Ervin Polansky, Rochester**

B.A. cum laude '79, St. Olaf College. Major: Statistics. Minor: Mathematics. Major Adviser: Prof. D.A. Berry.

**Bruce Donald Potter, New Ulm**

B.S. with distinction '79, University of Minnesota. Major: Entomology. Minor: Related Fields. Thesis: The Sunflower Moth, *Homoeosoma electellum*: Temperature Dependent Development, Phenology, and Host Plant Selection. Major Adviser: Prof. H.C. Chiang.

**Madapusi S. Rajendran, Madras, India**

B.Tech.'80, Indian Institute of Technology. Major: Computer and Information Sciences. Minor: Business Administration. Major Adviser: Prof. P.V. Afshari.

**Lorraine Susan Ransome, St. Paul**

B.A.'71, Macalester College. Major: Soil Science. Minor: Related Fields. Thesis: Scrubber Sludge Amendment of a Coarse Sandy Soil Cropped to Soybeans and Alfalfa: A Field Study Emphasizing Boron Distribution. Major Adviser: Prof. R.H. Dowdy.

**Lori E. Rehtzigel, South St. Paul**

B.S.'79, University of Minnesota. Major: Food Science. Minor: Related Fields. Thesis: Thermal Properties and Structural Characteristics of Model Cake Batters Containing Nonfat Dry Milk. Major Adviser: Prof. E.A. Davis.

**Michael David Rein, St. Paul**

B.A.'78, University of Minnesota. Major: Medicinal Chemistry. Minor: Related Fields. Thesis: The Synthesis and Pharmacologic Evaluation of Affinity Labels for the Opioid Receptors. Major Adviser: Prof. P.S. Portoghese.

**Wayne Daniel Rosamond, Creve Coeur, Mo.**

B.S.'80, Colorado State University. Major: Nutrition. Minor: Physiology. Thesis: Responses of the Aging Small Intestinal Epithelial Enterocyte and Its Disaccharidase Enzymes to Dietary Modification in the Rat. Major Adviser: Prof. D.A. Savaiano.

**Peter Yao Kanze Sallah, Ghana**

B.S.Agr.'78, University of Ghana. Major: Plant Breeding. Minor: Related Fields. Thesis: Introgression of Exotic Germplasm into Adapted Corn Belt Populations. Major Adviser: Prof. J.L. Gadelmann.

**Judith Raye Morey Sanderson, Rochester**

B.S.N.'60, Northwestern University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dineen.

**Suzanne Marie Sharrock**

B.S. with honors '73, University of Illinois. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. S.C. Bruell.

**Nancy Ann Shields, Minneapolis**

B.S.N. with distinction '73, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. D.K. Kjervik.

**Paul Kermit Sirois**

B.S.'79, Rutgers State University. Major: Animal Science. Minor: Statistics. Thesis: The Effect of Housing, Diet, and Season on the Performance of Young Dairy Calves. Major Adviser: Prof. C.W. Young.

**Virginia Schreter Sirois**

B.S.'79, Rutgers State University. Major: Animal Science. Minor: Related Fields. Thesis: The Effect of Supplementing a Low Protein Diet with Urea and Lysine on the Feed Digestibility, Plasma Urea Nitrogen, and Weight Gain of Weanling Ponies. Major Adviser: Prof. R.M. Jordan.

**Matthew G. Smith, Minneapolis**

B.A. magna cum laude '81, University of Minnesota. Major: Agricultural Economics. Minor: Related Fields. Major Adviser: Prof. P.M. Raup.

**Thomas L. Spinks**

B.S.'79, South Dakota State University. Major: Agricultural Economics. Minor: Related Fields. Major Adviser: Prof. G.L. Nelson.

**Shirley Wager Srdar, Minneapolis**

B.S. with distinction '81, University of Minnesota. Major: Nutrition. Minor: Related Fields. Thesis: The Effects of Purines on Food Intake and Thermoregulation. Major Adviser: Prof. A.S. Levine.

**Bradley David Strand, Stillwater**

B.A.'81, Carleton College. Major: Computer and Information Sciences. Minor: Mathematics. Major Adviser: Prof. W.D. Munro.

**Jay Steven Strohmaier, Walla Walla, Wash.**

B.S. cum laude '82, Washington State University. Major: Agricultural and Applied Economics. Minor: Related Fields. Thesis: An Economic Analysis of the Changing Price Relationships Between Wheat Futures Markets. Major Adviser: Prof. R.P. Dahl.

**Bhadriraju Subramanyam**  
B.S.'81, Andhra Pradesh Agricultural University.  
Major: Entomology. Minor: Biochemistry. Thesis:  
Susceptibility of Larval Instars of the Indian Meal  
Moth, *Plodia interpunctella* (Pyralidae: Lepidop-  
tera) to *Bacillus thuringiensis*-Insecticide Combi-  
nations. Major Adviser: Prof. L.K. Cutkomp.

**Marienne Bhavani Thuraisingham,**  
Minneapolis  
B.S.'75, University of Peradeniya; M.S.'77, Uni-  
versity of Bristol; Ph.D.'79, University of Wales.  
Major: Computer and Information Sciences. Mi-  
nor: Related Fields. Major Adviser: Prof. W.D.  
Munro.

**Brenda Diana Wingfield, Zimbabwe**  
B.S.Med. with honors '79, University of Cape  
Town; B.S.'78, University of Natal. Major: Bio-  
chemistry. Minor: Related Fields. Thesis: Replica-  
tion and Transcription of Cauliflower Mosaic Virus.  
Major Adviser: Prof. T.J. Guilfoyle.

**James R. Zaremba, Grand Rapids,**  
Mich.  
B.S. with honor '80, Michigan State University.  
Major: Agronomy. Minor: Biochemistry. Thesis:  
Pretreatment Rainfall Effects on the Efficacy of  
Glyphosate, Paraquat, 2,4-D Amine and 2,4-D  
Ester. Major Adviser: Prof. Richard Behrens.

### Master of Science

UNIVERSITY OF MINNESOTA, DULUTH

**Wei-Cho Foo**  
B.S.'77, University of Singapore. Major: Chemis-  
try. Minor: Related Fields. Major Adviser: Prof.  
Ronald Caple.

**Carl Edward Mach**  
B.S. summa cum laude '80, SUNY College of  
Environmental Science and Forestry. Major: Biol-  
ogy. Minor: Related Fields. Thesis: Effects of  
Nitric and Sulfuric Acid on the Growth of Phyto-  
plankton in Multispecies Chemostats. Major Ad-  
viser: Prof. J.R. Hargis.

**Bruce Wyatt Yeomans**  
B.A. cum laude '77, Carleton College. Major:  
Geology. Minor: Related Fields. Thesis: The Geol-  
ogy and Economic Petrology of the Archean New-  
ton Lake Formation, Boulder Bay Area, St. Louis  
County, Minnesota. Major Adviser: Prof. R.W.  
Marsden.

### Master of Science in Aerospace Engineering

**Kwok-Kit Choi**  
B.A.S.M.E. cum laude '82, University of Ottawa.  
Major: Aerospace Engineering. Minor: Related  
Fields. Major Adviser: Prof. A.S. Berman.

### Master of Science in Civil Engineering

**Mahmoud Etemadi**  
B.C.E.'81, University of Minnesota. Major: Civil  
Engineering. Minor: Related Fields. Major Ad-  
viser: Prof. T.V. Galambos.

**Joanna Christine Larson, Springfield**  
B.S. with highest honors '81, South Dakota State  
University. Major: Civil Engineering. Minor: Re-  
lated Fields. Major Adviser: Prof. H.G. Stefan.

**Stephen Robert Linnc**  
B.S.'80, University of Minnesota. Major: Civil  
Engineering. Minor: Computer and Information  
Sciences and Chemical Engineering. Thesis: Am-  
monium Removal and Filtration Performance of  
Clinoptilolite. Major Adviser: Prof. M.J. Sem-  
mens.

**Noel Richard Urbau, Williamson,**  
N.Y.  
B.S.Env.E. summa cum laude '79, Syracuse Uni-  
versity. Major: Civil Engineering. Minor: Related  
Fields. Thesis: The Nitrogen Cycle in a Forested  
Bog Watershed in Northern Minnesota. Major  
Adviser: Prof. S.J. Eisenreich.

## Master of Science in Electrical Engineering

**Kyo Young Chung, Korea**

B.E.'77, Kyung Hee University. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. Bernd Hoefflinger.

**Donald Bruce Gabrielson, Rochester**

B.E.E.'81, University of Minnesota. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. A.A. Tuszynski.

**Timothy Allan Grotjohn, Reading**

B.E.E. with high distinction '82, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Thesis: Modelling and Characterization of the Weak and Strong Inversion Currents in Short-Channel Mos Transistors. Major Adviser: Prof. Bernd Hoefflinger.

**MaryJo Hannasch**

B.E.E.'81, University of Minnesota. Major: Electrical Engineering. Minor: Physics. Thesis: Automated One-Port Impedance Measurements for Saw Devices Using RF Pulses. Major Adviser: Prof. W.P. Robbins.

**Eric Barry Selvin, Chelmsford,**

**Mass.**

B.S.C.S.E. cum laude '79, University of Massachusetts. Major: Electrical Engineering. Minor: Physics. Thesis: Ohmic Contacts to N-Type Silicon. Major Adviser: Prof. G.Y. Robinson.

**Fumio Yamada, Tokyo, Japan**

B.S.E.'76, M.S.E.'78, Osaka University. Major: Electrical Engineering. Minor: Related Fields. Thesis: Modeling and Optimization Studies for a Slab Reheat Furnace. Major Adviser: Prof. K.S. Kumar.

## Master of Science in Industrial Engineering

**Daniel Paul Force**

B.S.'80, University of California, Berkeley. Major: Industrial Engineering. Minor: Related Fields. Major Adviser: Prof. T.O. Kvalseth.

## Master of Science in Mechanical Engineering

**Bruce Crawford Brooks**

B.M.E. with distinction '81, University of Minnesota. Major: Mechanical Engineering. Minor: Related Fields. Major Adviser: Prof. R.J. Goldstein.

**Gregg Thomas Geiger, Pittsburgh,**  
**Pa.**

B.S.M.E. with highest distinction '82, Purdue University. Major: Mechanical Engineering. Minor: Related Fields. Thesis: Heat Transfer in a Cup-Like Cavity Facing into an Oncoming Flow. Major Adviser: Prof. E.M. Sparrow.

**Glenn Alexander Gurtcheff,**

**Westmont, N.J.**

B.S.M.E. with highest honors '82, University of Notre Dame. Major: Mechanical Engineering. Minor: Related Fields. Thesis: In-Tube Melting of Substances Which Change Phase Over a Range of Temperatures. Major Adviser: Prof. E.M. Sparrow.

**Tjandra Winata Karta**

B.M.E.'81, University of Minnesota. Major: Mechanical Engineering. Minor: Related Fields. Major Adviser: Prof. J.W. Ramsey.

**Tod Arthur Myrum, Hibbing**

B.M.E. with distinction '81, University of Minnesota. Major: Mechanical Engineering. Minor: Mathematics. Thesis: Effect of Inclination Angle on Melting in a Circular Tube. Major Adviser: Prof. E. M. Sparrow.

**Caryn Sue Preston, Itasca, Ill.**

B.S.M.E. with distinction '80, University of New Mexico. Major: Mechanical Engineering. Minor: Related Fields. Thesis: Heat Transfer from Rotating Circumferential Fins. Major Adviser: Prof. E. M. Sparrow.

**Richard James Wilson, Minneapolis**

B.M.E. with high distinction '75, University of Minnesota. Major: Mechanical Engineering. Minor: Related Fields. Major Adviser: Prof. B. Y. Liu.

## Master of Social Work

Tina Louise Hamel, Portland, Ore.  
B.A. '79, Reed College. Major: Social Work. Major  
Adviser: Prof. C. D. Hollister.

Robert Thomas Yerhot, Chaska  
B.A. '77, St. Mary's College. Major: Social Work.  
Major Adviser: Prof. N. F. Bracht.

Mary Ann Montgomery, Lake Elmo  
B.A. '68, University of Oregon; B.A. '80, Univer-  
sity of Minnesota. Major: Social Work. Major Ad-  
viser: Prof. G. S. Hoshino.

## Specialist Certificate in Education

John W. Bull, Forest Lake  
B.S. '67, Northern State College. Field: General  
Educational Administration. Major Adviser: Prof.  
V. D. Mueller.

Allen Noble Saunders, St. Paul  
B.S. with special honors, high distinction '71, M.A.  
'72, University of Iowa. Field: Educational School  
Administration. Major Adviser: Prof. G. F. Alkire.

Gary Dean Kociemba, Chisago City  
B.S. with distinction '76, M.A. '81, University of  
Minnesota. Field: Secondary School Administra-  
tion. Major Adviser: Prof. N. C. Nickerson.

## June Candidates for Degrees

Subject to the completion of all curriculum requirements at the close of spring quarter, degrees will be conferred as indicated on those listed below and on others meeting the graduation requirements. Degrees are listed alphabetically.

### GRADUATE SCHOOL

#### Doctor of Education

Barbra Ann Zakrajsek, La Crosse,  
Wis.

B.S. with honors '70, St. Cloud State College; M.A. '76, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Project: A Study To Determine the Relationship of Positive Teacher Behavior as Seen in the PATL Project with Student Attendance, Grade Point Average and Discipline Problems. Major Adviser: Prof. N.C. Nickerson.

#### Doctor of Philosophy

Albert Surendran Abraham, Madras,  
India

B.V.S. with first class honors and distinctions '78, Tamil Nadu Agricultural University. Major: Veterinary Microbiology. Minor: Supporting Program. Thesis: Comparative Serological Evaluation of Avian Influenza Vaccination in Turkeys. Major Adviser: Prof. J.A. Newman.

Sarah Winston Aderholdt, High  
Point, N.C.

B.M. '77, M.M. '80, University of North Carolina, Chapel Hill. Major: Music. Minor: Supporting Program. Thesis: Let Horrid Jargon Split the Air: Billings' Rhapsody. Major Adviser: Prof. D.J. Argento.

Richard Alan Arend, Xenia, Ohio

B.S. summa cum laude '75, Wright State University. Major: Child Psychology. Minor: Supporting Program. Thesis: Preschoolers' Competence in a Barrier Situation: Patterns of Adaptation and Their Precursors in Infancy. Major Adviser: Prof. L.A. Sroufe.

Catherine Ella Blanshard Asher,  
Minneapolis

B.A. with honors '68, Lake Forest College; M.A. '78, University of Minnesota. Major: South Asian Languages. Minor: Supporting Program. Thesis: The Patronage of Sher Shah Sur: A Study of Form and Meaning in 16th-Century Indo-Islamic Architecture. Major Adviser: Prof. D.S. Lelyveld.

Dominic Sixtus Tanwie

Awahmukalah, Nkwen, Mezam,  
Cameroon

B.S. '79, M.S. '81, University of Minnesota. Major: Entomology. Minor: Microbiology. Thesis: The Role of *Wolbachia pipiens* Hertig in the Reproduction of the Mosquito, *Culex pipiens pipiens* Linnaeus (Diptera: Culicidae). Major Adviser: Prof. M.A. Brooks-Wallace.

Walid Muhammad Awni, Baghdad,  
Iraq

B.S. Pharm. '78, Baghdad University. Major: Pharmaceutics. Minor: Supporting Program. Thesis: Selected Pharmacokinetic Studies of Cyclosporine. Major Adviser: Prof. R.J. Sawchuk.

Mark Paul Bangert, Chicago, Ill.

B.A. '60, Concordia Senior College; B.D. '64, S.T.M. '69, Concordia Seminary; M.A. '73, University of Minnesota. Major: Music. Minor: Religious Studies. Thesis: Edward Reclin: Organist and Musician of the Church. Major Adviser: Prof. Johannes Riedel.

Osman Ali Basaran, Istanbul,  
Turkey

B.S.Ch.E. '78, Massachusetts Institute of Technology. Major: Chemical Engineering. Minor: Supporting Program. Thesis: Electrohydrodynamics of Drops and Bubbles. Major Adviser: Prof. L.E. Scriven.

James Maurice Bauck, Fergus Falls  
B.A. magna cum laude '77, Concordia College;  
M.A.'82, University of Minnesota. Major: Educa-  
tional Administration. Minor: Supporting Pro-  
gram. Thesis: A Comparative Study of Effective  
and Typical Middle Level Principals. Major Ad-  
viser: Prof. N.C. Nickerson.

Jon Michael Berry, El Paso, Tex.  
B.A.'77, Texas Lutheran College; M.A.'81, Uni-  
versity of Texas, El Paso. Major: Theatre Arts.  
Minor: Supporting Program. Thesis: Discourse and  
Scenography: With Special Consideration of Four  
Late Nineteenth-Century European Dramas. Ma-  
jor Adviser: Prof. J.D. Hurrell.

Steve Joseph Bezuk, Ambridge, Pa.  
B.S. with honors '76, University of Pittsburgh.  
Major: Chemistry. Minor: Supporting Program.  
Thesis: Organic Plasma Chemistry. Major Adviser:  
Prof. L.L. Miller.

Judith Ann Birmingham, Burnsville  
B.S.'63, University of Wisconsin, Madison;  
M.A.'77, Spec.Cert.'82, University of Minnesota.  
Major: Educational Administration. Minor: Sup-  
porting Program. Thesis: Job Satisfaction and  
Burnout Among Minnesota Teachers. Major Advi-  
sers: Profs. G.F. Alkire and T.L. Mazzoni.

Lorraine Boyle, Shakopee  
B.S.'70, M.Ed.'76, Spec.Cert.'82, University of  
Minnesota. Major: Educational Administration.  
Minor: Supporting Program. Thesis: A Study of  
Variables Related to Successful and Unsuccessful  
Minnesota Public School Referenda Elections in  
1981 and in 1982. Major Advisers: Profs. G.F.  
Alkire and T.L. Mazzoni.

Mark Jonathan Bradley  
A.B. magna cum laude '71, Dartmouth College;  
M.A.'77, University of Minnesota. Major: Theatre  
Arts. Minor: English. Thesis: E.E. Cummings'  
*Him*: An Annotation with Analysis and Production  
History. Major Adviser: Prof. C.M. Nolte.

Matthew Cannon Brennan,  
Minneapolis  
A.B. with honors '77, Grinnell College; M.A.'80,  
University of Minnesota. Major: English. Minor:  
Supporting Program. Thesis: Wordsworth,  
Turner, and Romantic Landscape Traditions: A  
Study in the Picturesque and the Sublime. Major  
Adviser: Prof. K.R. Bales.

William Robert Brookman,  
Maplewood  
B.S. with distinction '76, M.A.'77, University of  
Minnesota. Major: Ancient Studies. Thesis: A  
Study of Neo-Sumerian Economic Documents:  
The Umma Milling Industry. Major Advisers:  
Profs. Peter Patton and D.D. Reisman.

Joel Michael Brown, Excelsior  
B.S.'65, M.A.'66, University of Alabama. Major:  
Psychology. Minor: Supporting Program. Thesis:  
Similarity of Strong-Campbell Interest Inventory  
Scores and Profiles from Computerized Versus  
Paper-and-Pencil Administrations. Major Adviser:  
Prof. David Weiss.

Susan Jean Busch, St. Paul  
B.A. magna cum laude '75, Gustavus Adolphus  
College; M.S.'77, University of Minnesota. Major:  
Zoology. Minor: Supporting Program. Thesis:  
Winter Adaptations of Terrestrial Isopods *Trache-  
oniscus Rathkei* (Brandt). Major Adviser: Prof.  
W.D. Schmid.

Elisabeth Caron, Minneapolis  
B.A. cum laude '71, University of Minnesota,  
Duluth. Major: French. Minor: Supporting Pro-  
gram. Thesis: *Les Essais De Montaigne Ou Les  
Agencements D'Un Langage-Outil*. Major Ad-  
viser: Prof. T.C. Conley.

David Clinton Casal, Alameda,  
Calif.  
B.A.'76, M.S.'82, University of Minnesota. Major:  
Physiological Hygiene. Minor: Supporting Pro-  
gram. Thesis: Effect of 2000 Kilocalories of Weekly  
Treadmill Walking and Stairclimbing on Coronary  
Risk Factors of Obese Young Men. Major Adviser:  
Prof. A.S. Leon.

Rosemary Kennedy Chapin,  
Shoreview  
B.A.'69, Kansas State University; M.S.W.'71, Uni-  
versity of Minnesota. Major: Social Work. Minor:  
Supporting Program. Thesis: Utilization of Infor-  
mation from Client-Based Needs Assessments by  
Programs Serving the Elderly. Major Adviser:  
Prof. C.D. Hollister.

Thomas Richard Chase, Rochester,  
N.Y.  
B.S. with highest honors '77, Rochester Institute of  
Technology. Major: Mechanical Engineering. Mi-  
nor: Computer and Information Sciences. Thesis:  
Bunnester Theory for Four Precision Positions: An  
Extended Discourse with Application to the Di-  
mensional Synthesis of Arbitrary Planar Linkages.  
Major Adviser: Prof. A.G. Erdman.

Jiann-Yuh Chen  
B.S.'76, National Chung-Hsing University;  
M.S.Agr.'78, National Taiwan University. Major:  
Food Science. Minor: Supporting Program. Thesis:  
Loss of Volatiles During Extrusion of Foods. Major  
Adviser: Prof. T.P. Labuza.

Seung-Urn Choe, Seoul, Korea  
B.S.'76, M.S.'78, Seoul National University. Ma-  
jor: Astrophysics. Minor: Supporting Program.  
Thesis: Herbig-Haro and Related Objects: Their  
Formation and Evolution in Protostellar Bipolar  
Outflows. Major Adviser: Prof. T.W. Jones.

Dean William Christensen, St. Paul  
B.A. '72, Macalester College; M.S. '82, University of Minnesota. Major: Plant Breeding. Minor: Supporting Program. Thesis: Utility of Zein Isoelectric Focusing for Predicting Heterosis in Maize. Major Adviser: Prof. J.L. Gadelmann.

Bruce David Collick  
B.A. '75, Northwestern University; M.S. '78, Rutgers University. Major: Physics. Minor: Supporting Program. Thesis: A Measurement of the Mass, Full Width, and Radiative Width of the B+ (1237) Meson. Major Adviser: Prof. Marvin Marshak.

James Clinton Cross, Minneapolis  
B.S.B. '69, M.B.A. '79, University of Minnesota. Major: Business Administration. Minor: Supporting Program. Thesis: Marketing Planning in the Deregulated Motor Carrier Industry. Major Adviser: Prof. C.W. Rudelius.

James Joseph D'Aurora, Jr.,  
Minneapolis  
B.A. '71, University of Notre Dame; M.Ed. '74, Kent State University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Family Sexual Abuse: An Exploratory Study Examining the Psychological Differences of Women Victims in Therapy. Major Adviser: Prof. A.R. Anderson.

Julia Davis, Minneapolis  
A.B. with high honors '74, Oberlin College. Major: Psychology. Minor: Supporting Program. Thesis: The Early Work Adjustment of Women Engineers. Major Adviser: Prof. R.V. Dawis.

Nancy Kimberly Dess, Sacramento,  
Calif.  
B.A. magna cum laude '78, University of California, Los Angeles. Major: Psychology. Minor: Supporting Program. Thesis: Changes in Controllability and Predictability: Immediate Physiological and Proactive Behavioral Effects upon Responses to Shocks in Dogs. Major Adviser: Prof. J.B. Overmier.

Leslie Leigh Domier  
B.S. cum laude '78, University of North Dakota. Major: Genetics. Minor: Supporting Program. Thesis: *Drosophila virilis* Histone Genes. Major Adviser: Prof. Martin Blumenfeld.

Sara Matson Drake, Lake Forest, Ill.  
B.A. '65, Carleton College; M.A. '68, University of Minnesota. Major: Comparative Literature. Thesis: SpaceTime Aspects of the Literary Work Theory. Method, Application. Major Adviser: Prof. L.L. Duroche.

Cynthia Ann Druva, Pueblo, Colo.  
B.S. with highest distinction '75, M.S. '78, Colorado State University. Major: Educational Psychology. Minor: Supporting Program. Thesis: A Comparison of the Comprehension Skills Used in Problem Solving by Math-Anxious and Non-Math-Anxious Students Enrolled in College-Level Mathematics Courses. Major Adviser: Prof. J.C. Merwin.

Samuel Wayne Duncan, Atlanta, Ga.  
B.A. '78, Emory University. Major: Child Psychology. Minor: Supporting Program. Thesis: The Transition to Parenthood: Coping and Adaptation of Couples to Pregnancy and the Birth of Their First Child. Major Adviser: Prof. L.A. Sroufe.

Susan Jean Corey Everson, St. Paul  
B.A. summa cum laude '61, St. Olaf College; M.A. '64, University of Minnesota. Major: American Studies. Thesis: Bodyself: Women's Bodily Experience in Recent Feminist Theology and Women's Literature. Major Adviser: Prof. G.G. Yates.

Steven Craig Fehrer, Milwaukee,  
Wis.  
B.S. with distinction '73, M.S. '77, University of Wisconsin, Madison. Major: Animal Physiology. Minor: Supporting Program. Thesis: The Role of Monoamines and Thyrotropin Releasing Hormone in Prolactin and Luteinizing Hormone Release by the Pituitary Gland of the Young Domestic Turkey (*Meleagris gallopavo*). Major Adviser: Prof. M.E. Halawani.

Michael John Frank, Toronto,  
Ontario, Canada  
B.A. with honors '67, York University; M.A. '68, Columbia University. Major: Educational Psychology. Minor: Supporting Program. Thesis: A Comparison Between an Individual and Group Goal Structure Contingency That Differed in the Behavioral Contingency and Performance-Outcome Components. Major Adviser: Prof. D.W. Johnson.

Dan Michael Froehlich, Lu Verne,  
Iowa  
B.S. '79, M.S. '80, Iowa State University. Major: Plant Breeding. Minor: Supporting Program. Thesis: Determination of Heterotic Patterns for in Vitro Pollen-Tube Length Among Alfalfa Germplasm Sources. Major Adviser: Prof. D.K. Barnes.

Victoria Ann Fullam, Philadelphia,  
Pa.  
B.M. '74, Philadelphia College of the Performing Arts; M.M. '79, University of Washington. Major: Music. Minor: Supporting Program. Thesis: Mermaid. Major Adviser: Prof. D.J. Argento.

Jose Arturo Perez Galindo, Mexico  
Ing.'72, Instituto Tecnologico Regional de Durango; M.Eng.'75, University of California, Berkeley. Major: Mechanical Engineering. Minor: Supporting Program. Thesis: Internal Heat Transfer and Pressure Drop Measurements in a Various Baffled Shell and Tube Heat Exchanger. Major Adviser: Prof. E.M. Sparrow.

Nina L. Geller, Jerusalem, Israel  
B.A.'72, M.S.'74, Colorado State University. Major: Hospital and Health Care Administration. Minor: Supporting Program. Thesis: Association Between Medical Practice Characteristics and the Institute of Medicine's Definition of Primary Care Attributes. Major Adviser: Prof. T.J. Litman.

Jon Gottesman, Minneapolis  
A.B. with highest distinction '74, Oberlin College. Major: Psychology. Minor: Supporting Program. Thesis: Color-Opponent Horizontal Cells in the Retina of the Bowfin, *Amia calva*: Intracellular Recordings and Models of Cone Inputs. Major Adviser: Prof. D.A. Burkhardt.

John Robert Greene, Minneapolis  
B.Math. with distinction '78, B.Phys. with distinction '78, University of Minnesota. Major: Mathematics. Minor: Supporting Program. Thesis: Character Sum Analogues for Hypergeometric and Generalized Hypergeometric Functions over Finite Fields. Major Adviser: Prof. D.W. Stanton.

Richard H. Grimm, Jr., Edina  
B.A.'68, M.D.'72, University of Oklahoma; M.P.H.'78, University of Minnesota. Major: Physiological Hygiene. Minor: Supporting Program. Thesis: The Effects of Diuretic Use on Blood Lipids and Lipoproteins in Mildly Hypertensive Men: Implications for Cardiovascular Risk. Major Adviser: Prof. A.S. Leon.

Karen Lyum Gulliver, Los Angeles, Calif.  
B.A.'73, University of California, Santa Barbara; M.S.'76, University of Minnesota. Major: Agricultural Economics. Minor: Economics. Thesis: The Brazilian Soybean Economy: An Econometric Model with Emphasis on Government Policy. Major Adviser: Prof. J.P. Houck.

Francesann Lee Kister Heisey, West Chester, Pa.  
B.A.'73, Pennsylvania State University. Major: Family Social Science. Minor: Museology. Thesis: A Quantitative Methodology for Generating Specifically Fitted Garment Patterns. Major Advisers: Profs. Peter Brown and R.F. Johnson.

Diane Lee Henze, Minnetonka  
B.S. with high distinction '56, M.A.'57, Spec. Cert.'76, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: Equity in Family Work Role Among Dual Career Couples: The Relationship of Demographic, Socioeconomic, Attitudinal and Personality Factors. Major Adviser: Prof. L.S. Hansen.

Suleiman Abukres Hermas, Libya  
B.Sc.'74, University of Tripoli. Major: Animal Science. Minor: Supporting Program. Thesis: Genetic Trends and Relationships of Production and Reproduction in Guernsey Dairy Cattle. Major Adviser: Prof. C.W. Young.

Mary Dee Johnson Hicks, Minneapolis  
B.A. magna cum laude '75, Gustavus Adolphus College; M.A.'83, University of Minnesota. Major: Psychology. Minor: Supporting Program. Thesis: The Relationship of Life Changes, Causal Attributions, and Self-Efficacy to Adjustment Following Marital Separation and Divorce. Major Adviser: Prof. S.D. Brown.

Nancy Carol Ledder Holt, Eden Prairie  
B.A.'74, Gustavus Adolphus College. Major: Psychology. Minor: Supporting Program. Thesis: The Relation Between Individual Vocational Needs and Work Environment Reinforcers in Sample of Food Service Workers. Major Adviser: Prof. L.H. Lofquist.

Karen Marie Hult, Claremont, Calif.  
B.A. summa cum laude '78, Creighton University. Major: Political Science. Minor: Supporting Program. Thesis: Governmental Consolidation: Implementation Processes and Outcomes. Major Adviser: Prof. C.E. Walcott.

Abu Saeed Mohammad Shamsul Huq, Bangladesh  
B.Pharm. with honors '71, M.Pharm.'72, University of Dacca. Major: Pharmaceutics. Minor: Supporting Program. Thesis: Characterization of a Cascade Barrier Bed Dissolution Test Apparatus by the Methods of Dimensional Analysis. Major Adviser: Prof. E.G. Rippie.

Raja Krishnamoorthy Iyer, Madras, India  
B.E. '69 University of Burdwan; M.S.I.E.'71, M.B.A.'77, University of Minnesota. Major: Business Administration. Minor: Supporting Program. Thesis: Decision Support Process for Foreign Direct Investment: Strategic Choice, Tactical Planning, and Operational Implementation and Integration. Major Adviser: Prof. N.L. Chervany.

Douglas Giles Johnson, Wheaton,  
Ill.

B.A. '78, Wheaton College. Major: Chemistry. Minor: Supporting Program. Thesis: The Infrared Laser Induced Chemistry of Oxetanes: The Production of Excited State Products. Major Adviser: Prof. W.E. Farneth.

Elizabeth Darrow Johnson,  
Rochester

B.A. cum laude '76, St. Olaf College. Major: Microbiology. Minor: Supporting Program. Thesis: Autoreactive Cells of the Murine Syngeneic Mixed Lymphocyte Reaction. Major Adviser: Prof. C.S. David.

Mary Susan Johnston, Plymouth

B.A. cum laude '71, Moorhead State College; M.A. '80, University of Minnesota. Major: English. Minor: Supporting Program. Thesis: In Quest of Highest Truth: The Journey in Romantic Poetry. Major Adviser: Prof. Norman Fruman.

Richard Lee Johnston, Richmond,  
Calif.

B.S. '78, University of California, Berkeley; M.S. '81, University of Minnesota. Major: Entomology. Minor: Supporting Program. Thesis: Establishment of Economic Thresholds for Potato Leafhopper on Potato and Yield Loss Due to Colorado Potato Beetle. Major Adviser: Prof. E.B. Radcliffe.

Abdulaziz Abdulrahman Kamal,  
Doha, Qatar

B.A. with second class honors '75, Kuwait University; M.A. '79, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: A Study of Attitudes, Social Adjustment, and Educational Problems of Qatari Students Pursuing Higher Education in the United States. Major Adviser: Prof. G.M. Maruyama.

John David Kamp, Houston, Tex.

B.S. with high honors '74, B.A. with highest honors '74, University of Texas, Austin. Major: Psychology. Minor: Supporting Program. Thesis: An Individual Differences Study of the Contributions of Imaginative Ability and Compliance Motivation to Hypnotic Responsiveness. Major Adviser: Prof. Auke Tellegen.

Moonsoo Kang, Seoul, Korea

B.Econ. '71, Seoul National University. Major: Economics. Minor: Supporting Program. Thesis: Resource Supply Shocks and the Interest Rate. Major Adviser: Prof. C.A. Sims.

Daniel Karunakaran

B.V.S. '77, Tamil Nadu Agricultural University; M.S. '80, M.P.H. '83, University of Minnesota. Major: Veterinary Microbiology. Minor: Supporting Program. Thesis: Studies on the Diagnosis and Control of Influenza Virus Infection of Turkeys. Major Adviser: Prof. J.A. Newman.

Terrence Frederick Kayser,  
Milwaukee, Wis.

B.F.A. '72, University of Wisconsin, Milwaukee; M.S. '76, University of Wisconsin, Stout. Major: Vocational Education. Minor: Supporting Program. Thesis: A Causal-Comparative Study To Test the Construct of Educational Adjustment for Post-secondary Vocational Students. Major Advisers: Profs. B.B. Smith and J.M. Brown.

Bonaventure Wanjala Kerre,  
Kimilili, Bungoma, Kenya

B.S. '79, M.S. '81, Oregon State University. Major: Vocational Education. Minor: Industrial Relations. Thesis: The Development of Scientific and Technological Personnel in Modern Society: An Analytical Study of Perceptions and Attitudes of Education and Industry Personnel in the State of Minnesota. Major Adviser: Prof. G.I. Swanson.

Richard Burket Kielbowicz, Ames,  
Iowa

B.A. '75, College of Wooster; M.A. '78, University of Minnesota. Major: Mass Communication. Minor: Supporting Program. Thesis: News in the Mails, 1690-1863: The Technology, Policy, and Politics of a Communication Channel. Major Advisers: Profs. Hazel Dicken-Garcia and W.E. Emery.

Byong Moon Kim, Korea

B.Foreign Trade '72, Myunggi College; M.A. '74, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: An Elementary Staff Composition Model Applied to the Case of Declining Enrollment: Combined Applications of Multiple Regression Analysis and a System of Linear Ordinary Differential Equations. Major Adviser: Prof. C.H. Sederberg.

Jun Young Kim, Korea

B.Econ. '75, Sung Kyun Kwan University. Major: Economics. Minor: Supporting Program. Thesis: Taxation, Equilibrium Dynamics and Welfare. Major Adviser: Prof. O.H. Brownlee.

Robert Paul King, Minneapolis

B.A. '72, Western Illinois University; M.A. '77, Western Michigan University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Data Utilization Rules To Assess Thioridazine Therapy in Institutionalized Mentally Retarded People. Major Advisers: Profs. S.L. Deno and T.I. Thompson.

**Verla Kroeker Klassen, Mountain Lake**

B.A.'66, Bethel College; M.A.'73, University of Minnesota. Major: Education. Minor: Supporting Program. Thesis: A Comparative Study of the Effects of Three Methods of Oral Reading on Primary Grade Pupil Reading Fluency. Major Adviser: Prof. J.C. Manning.

**Nak Won Kwon**

B.Ed.'71, Kongju National Teachers College; M.Ed.'73, Seoul National University. Major: Education. Minor: Supporting Program. Thesis: The Relationship Between Teacher's Conceptual Level and Context Specific Teaching Behavior. Major Adviser: Prof. K.R. Howey.

**Paul Douglas Lampe, Northfield**

B.A.'79, Carleton College. Major: Biochemistry. Minor: Chemistry. Thesis: The Extrinsic Protein-Membrane Interactions of Myelin Basic Protein and Blood Coagulation Factor V. Major Adviser: Prof. Gary Nelsestuen.

**Chi-Ping Lau, Hong Kong**

B.S. with honors '75, M.Phil.'77, Chinese University of Hong Kong. Major: Mathematics. Minor: Supporting Program. Thesis: The Boundary Behavior of Solutions of Quasilinear Second Order Elliptic Partial Differential Equations Arising from Geometrical Problems. Major Adviser: Prof. J.C. Nitsche.

**Carmay Siow Chiow Lim,**

**Georgetown, Penang, Malaysia**

B.S. with first class honors '79, University of London. Major: Chemical Physics. Minor: Supporting Program. Thesis: Nonequilibrium Effects in Chemical Kinetics. Major Adviser: Prof. D.G. Truhlar.

**Ruth Carolyn Loew, Rochester, N.Y.**

B.A. magna cum laude '72, Brown University; M.A.'74, Northwestern University. Major: Linguistics. Minor: Supporting Program. Thesis: Roles and Reference in American Sign Language: A Developmental Perspective. Major Adviser: Prof. G.A. Sanders.

**Brian B. Looney**

B.S. cum laude '78, Texas Christian University. Major: Civil Engineering. Minor: Supporting Program. Thesis: The Dynamic Behavior of Chlorinated Organics in Lake Superior: Sediment, Water and Air Interactions. Major Adviser: Prof. S.J. Eisenreich.

**Jean Bernard Mallais, Moncton,**

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B.A.'67, L'Universite de Moncton; M.P.E.'69, Springfield College. Major: Physical Education. Minor: Supporting Program. Thesis: The Effect of Color Preference on the Throwing Performance of Fourth-Grade Children. Major Adviser: Prof. J.J. Plack.

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B.Sc. with distinction '77, University of Witwatersrand; M.S.Min.E.'81, University of Minnesota. Major: Mineral Engineering. Minor: Supporting Program. Thesis: Evaluation of the Metallurgical Potential of Transferred-Arc Plasma Furnaces for Ferrochromium Production. Major Adviser: Prof. K.J. Reid.

**Ellein Carol McDaniel, Olivia**

B.S.'55, M.S.'67, Mankato State College. Major: Educational Administration. Minor: Supporting Program. Thesis: A Study of the Perceptions of Minnesota School Board Members Regarding Sources of, Importance of, and Need for Information on Issues Pertinent to Their Work on the Board. Major Adviser: Prof. V.D. Mueller.

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B.A. with high distinction '69, M.S.'78, University of Minnesota. Major: Biometry and Health Information Systems. Minor: Supporting Program. Thesis: Near Non-Identifiability in Non-Linear Parameter Estimation. Major Adviser: Prof. E.A. Johnson.

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B.S.'69, M.A.'70, University of Minnesota. Major: Vocational Education. Minor: Supporting Program. Thesis: Factors Affecting Private Sector Employers' Decisions To Hire Individuals Who Are Mentally Retarded. Major Adviser: Prof. D.C. Bjorkquist.

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A.B.'67, A.M.'69, M.L.S.'71, Indiana University. Major: Library Science. Minor: Higher Education. Thesis: The Development of Reference Services in the American Liberal Arts College, 1876-1976. Major Adviser: Prof. W.C. Simonton.

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B.A.'75, University of California, Berkeley. Major: Psychology. Minor: Supporting Program. Thesis: Perceptions of Intraorganizational Mobility Requirements. Major Adviser: Prof. J.P. Campbell.

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B.A. with honors '76, University of California, Santa Cruz. Major: Microbiology. Minor: Supporting Program. Thesis: Structure and Expression of the Integrated Viral Genome in Rous Sarcoma Virus Transformed and Revertant Field Vole Cells. Major Adviser: Prof. A.J. Faras.

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B.A. cum laude '63, Abilene Christian College; M.A.'69, University of Minnesota. Major: Education. Minor: American Studies. Thesis: Higher Education and the Development of Professionalism in Post-Civil War America: A Content Analysis of Inaugural Addresses Given by Selected Land-Grant College and University Presidents, 1867-1911. Major Advisers: Profs. Ayers Bagley and S.M. Clark.

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B.A. '75, Spec.Cert. '79, University of Minnesota;  
M.A. '76, College of St. Thomas. Major: Educa-  
tional Administration. Minor: Supporting Pro-  
gram. Thesis: The Relationship of Impasse Resolu-  
tions and School Principals' Job Satisfaction. Major  
Advisers: Profs. T.L. Mazzoni and G.F. Alkire.

Joseph Gilbert Nagy, Yarbo,  
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B.S.A. '72, M.Sc. '74, University of Saskatchewan.  
Major: Agricultural Economics. Minor: Econom-  
ics. Thesis: The Pakistan Agricultural Develop-  
ment Model: An Economic Evaluation of Agricul-  
tural Research and Extension Expenditures. Major  
Adviser: Prof. V.W. Ruttan.

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City, Iowa

B.S. with honors '77, University of California,  
Riverside. Major: Microbiology. Minor: Support-  
ing Program. Thesis: Host Mechanism for the  
Elimination of Blood-Borne Relapsing Fever Bor-  
reliae. Major Adviser: Prof. R.C. Johnson.

Ky Thanh Nguyen, Vietnam

B.S. magna cum laude '78, University of Houston.  
Major: Mechanics. Minor: Supporting Program.  
Thesis: Bicomponent Flow Problems in Rheologi-  
cal Fluid Mechanics. Major Advisers: Profs. D.D.  
Joseph and G.S. Beavers.

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Lic. '77, Universidad Complutense de Madrid;  
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nomics. Minor: Supporting Program. Thesis: A  
Quantitative Analysis of the General Equilibrium  
Effects Associated with Tariff Removal in Spain.  
Major Adviser: Prof. A.D. Krueger.

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B.A. '76, Reed College; M.A. '82, University of  
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Program. Thesis: Popular Culture and Peasant  
Rebellion in Pre-Famine Ireland. Major Adviser:  
Prof. S.E. Lehmberg.

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B.S. '79, University of Missouri. Major: Plant  
Breeding. Minor: Supporting Program. Thesis:  
Half-Sib Family Selection in Wild Rice (*Zizania  
palustris* L.). Major Adviser: Prof. R.E. Stucker.

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Valley

B.A. '65, California State University; M.A. '78, Uni-  
versity of Minnesota. Major: English. Minor: Sup-  
porting Program. Thesis: Flannery O'Connor's Di-  
vided Vision Apocalypse of Self, Resurrection of  
the Double. Major Adviser: Prof. C.G. Anderson.

David Robert Peck, Tonawanda, N.Y.  
B.S. cum laude '78, Rensselaer Polytechnic Insti-  
tute. Major: Chemistry. Minor: Supporting Pro-  
gram. Thesis: Photochemical Construction of the  
Acorane Skeleton and a Spirodilactone Route to  
Venturicidin. Major Adviser: Prof. T.R. Hoye.

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A.B. '74, Dartmouth College, M.S. '77, Case West-  
ern Reserve University. Major: Microbiology. Mi-  
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tion of Macrophages from Young and Aging Mice.  
Major Adviser: Prof. A.G. Johnson.

Phyllis White Phelan, Broadway, Va.

B.A. honors '73, M.A. '77, College of William and  
Mary. Major: Psychology. Minor: Supporting Pro-  
gram. Thesis: Toward a Social-Cognitive Model of  
Bulimia: Role of Salient Beliefs, Self-Efficacy, and  
Self-Schema. Major Advisers: Profs. Eugene Bor-  
gida and G.R. Leon.

Jeffrey Powers Prince

A.B. '76, Cornell University. Major: Psychology.  
Minor: Supporting Program. Thesis: Investigating  
College Student Attrition: An Application of Hol-  
land's Theory of Vocational Choice. Major Adviser:  
Prof. J.C. Hansen.

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B.S.Ed. '76, State University of New York;  
M.Ed. '79, University of Nevada, Las Vegas. Ma-  
jor: Physical Education. Minor: Supporting Pro-  
gram. Thesis: Creatine Kinase Isoenzymes in Se-  
rum and Skeletal Muscle of Trained Marathon  
Runners. Major Adviser: Prof. G.A. Stull.

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Altos, Calif.

A.B. '73, M.B.A. '75, Stanford University. Major:  
Agricultural Economics. Minor: Economics. The-  
sis: An Evaluation of Investment in Agricultural  
Research in Indonesia, 1965-1977. Major Adviser:  
Prof. V. W. Ruttan.

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B.A. '70, Beloit College; M.A. '80, University of  
Minnesota. Major: Theatre Arts. Minor: Support-  
ing Program. Thesis: The Interpretation of Action  
in Dramatic Language. Major Advisers: Profs.  
D.W. Thompson and Virginia Fredricks.

Ivancica Dvorzak Schrunk,  
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B.A. '73, M.A. '73, University of Zagreb; M.A. '75,  
University of Minnesota. Major: Classical Area  
Studies. Minor: Supporting Program. Thesis: Late  
Roman Red Slipped Wares from Diocletian's Pal-  
ace at Split, Yugoslavia. Major Advisers: Profs.  
Sheila McNally and W.A. McDonald.

**Richard Victor Schultz, Minneapolis**  
B.A. cum laude '69, Macalester College; M.A. '76, University of Minnesota. Major: Educational Psychology. Minor: Supporting Program. Thesis: Reducing the Use of Timeout in a Secondary Program for Emotionally Disturbed/Behaviorally Disordered Students. Major Adviser: Prof. F.H. Wood.

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B.A. with honors '76, Vassar College. Major: Philosophy. Minor: Supporting Program. Thesis: Form and Content in a Theory of Rights. Major Adviser: Prof. R.E. Sartorius.

**Douglas Maclean Smith**  
B.A. '73, M.D. '76, University of Iowa. Major: Pathobiology. Minor: Cell and Developmental Biology. Thesis: A Comparison of Arachidonic Acid Metabolism in Nasal Polyps and Eosinophils. Major Advisers: Profs. J.G. White and Erhard Haus.

**Jane Adams Smith, Minnetonka**  
B.A. '59, University of Texas, Austin; M.S. '82, University of Minnesota. Major: Plant Physiology. Minor: Genetics. Thesis: Seed Formation in Inter- and Intra-Specific Hybrids of *Solanum* Species. Major Adviser: Prof. S.L. Desborough.

**Donald Richard Sonsalla, Winona**  
B.S. '55, M.A. '62, University of Minnesota. Major: Education. Minor: Educational Psychology. Thesis: A Comparative Case Study of Secondary Programs for Hmong Refugee Students in the Minneapolis and the St. Paul Public Schools. Major Adviser: Prof. N.C. Nickerson.

**Katherine Anne Staskus, North  
Olmsted, Ohio**  
B.S. '75, University of Michigan, Ann Arbor. Major: Microbiology. Minor: Supporting Program. Thesis: Avian Retrovirus Reverse Transcription, in Vitro: cDNA Synthesis in Reconstructed Reactions Utilizing the Native Template-Primer Complex. Major Adviser: Prof. A.J. Faras.

**Darlene Sholtis Stealey, Belle  
Vernon, Pa.**  
B.A. '69, M.A. '70, West Virginia University. Major: Educational Psychology. Minor: Supporting Program. Thesis: Linguistic and Cognitive Determinants of the Development of Comprehension for Certain Classes of Questions. Major Adviser: Prof. J.E. Turnure.

**Bruce Wayne Stuart, Coon Rapids**  
B.A. summa cum laude '69, University of North Dakota. Major: American Studies. Thesis: American Religious Historiography: William Warren Sweet, Perry Miller, and Sidney E. Mead. Major Adviser: Prof. M.Q. Sibley.

**Elizabeth Ellen Sugg**  
B.S. '75, University of Vermont; M.S. '77, Virginia Polytechnic Institute and State University. Major: Medicinal Chemistry. Minor: Chemistry. Thesis: Synthesis and Biological Evaluation of Leucine-Enkephalinamide Analogs Containing Conformationally Restricted Amino Acids. Major Adviser: Prof. P.S. Portoghese.

**Jacques Surprenant, Canada**  
B.Sc. '76, Université de Sherbrooke; M.Sc. '80, Université Laval. Major: Plant Breeding. Minor: Supporting Program. Thesis: Forage Yield and Quality in Reed Canarygrass: Influence of Planting Patterns and Effect of One Cycle of Phenotypic Selection. Major Adviser: Prof. R.H. Busch.

**Terry George Tofte, Burnsville**  
B.A. '70, Concordia College; B.S. '72, M.A. '77, University of Minnesota. Major: Educational Administration. Minor: Supporting Program. Thesis: A Delphi Study Identifying Perceived and Desired Future States of Selected Aspects of the North Central Association Commission on Schools. Major Adviser: Prof. R.T. Lambert.

**John Douglas Trawick, DeKalb, Ill.**  
B.A. '76, Gustavus Adolphus College. Major: Microbiology. Minor: Supporting Program. Thesis: Transcription and Regulation of F Plasmid Maintenance Genes. Major Adviser: Prof. B.C. Kline.

**Prachin Virakul, Thailand**  
B.Sc. '75, D.V.M. '77, Chulalongkorn University; M.S. '83, University of Minnesota. Major: Theriogenology. Minor: Supporting Program. Thesis: Bovine Viral Diarrhea Virus and Early Reproductive Failure in Dairy Cattle. Major Adviser: Prof. Raimunds Zenjanis.

**Wolfgang Otto Vogel, Seevetal,  
West Germany**  
Dipl. '70, Universität Hamburg; M.S. '79, University of Minnesota. Major: Agricultural Economics. Minor: Economics. Thesis: An Economic Analysis of the Potential Sunflower Acreage in the Upper Midwest. Major Adviser: Prof. J.E. Fruin.

**T. Colette Wanless**  
B.A. cum laude '76, Macalester College; M.A. '80, University of Minnesota. Major: American Studies. Thesis: Soil and Soul: The Experience of Southern Rural Womanhood in Selected Novels by Edith Summers Kelley, Ellen Glasgow and Elizabeth Madox Roberts. Major Advisers: Profs. D.W. Noble and T.A. McNaron.

**Gordon B. Ward, Jr., Fargo, N.D.**  
B.S. '70, University of Maryland. Major: Entomology. Minor: Biochemistry. Thesis: Influence of Symbiotic Bacteria on the Nitrogen Metabolism of the German Cockroach, *Blattella germanica*. Major Adviser: Prof. M.A. Brooks-Wallace.

**Norman Anthony Wieseler,**  
Faribault

B.A. '66, Saint Mary's College; M.A. '72, Mankato State College. Major: Educational Psychology. Minor: Supporting Program. Thesis: Environmental Conditions Regulating Stereotypic Behavior in Mentally Retarded People. Major Advisers: Profs. T.I. Thompson and S.L. Deno.

**James Ray Wilson, Oxford, Ohio**

B.A. '52, Miami University; M.A. '56, Ohio State University. Major: Geography. Minor: Supporting Program. Thesis: Multinational Enterprise in Brazilian Geographic Development: 1965-1978. Major Adviser: Prof. E.C. Mather.

**Ronald Paul Wirth, Minneapolis**

B.S. '78, Colorado State University. Major: Chemistry. Minor: Supporting Program. Thesis: Part I: Transition Metal Nitro/Nitrosyl Redox Couples: Applications to the Oxidation of Organic Compounds. Part II: Synthesis and Reactions of (2-[Trimethylsilylmethyl]benzyl)-trialkylammonium Iodide o-Xylylene Precursors. Major Adviser: Prof. L.L. Miller.

**Janet Lee Witthuhn, Minneapolis**

B.S. summa cum laude '70, Northland College; M.S. '74, University of Wisconsin, Madison. Major: Educational Administration. Minor: Supporting Program. Thesis: Patterns of Student Performance on Mathematics Strands for American Indians and Others in a Large Urban School District. Major Adviser: Prof. W.W. Ammentorp.

**Gloria Blanche Wood, Cambridge**

B.A. with honors '71, Hamline University. Major: Psychology. Minor: Supporting Program. Thesis: The Accuracy of Counselors' First Impressions Using Methods Based on the Interpersonal Tracking Task and the Theory of Signal Detection. Major Adviser: Prof. R.V. Dawis.

**Charles Edward Yost, Lake  
Tomahawk, Wis.**

B.S. '66, M.S. '67, Ed.S. '76, Stout State University. Major: Vocational Education. Minor: Supporting Program. Thesis: A Study To Identify the Importance of Tasks Performed by Manufacturing Engineers for Manufacturers in the State of Wisconsin. Major Adviser: Prof. Jerome Moss, Jr.

**Dale Kwai-yum Yu, Hong Kong**

B.S. '78, University of Minnesota. Major: Pharmaceutics. Minor: Supporting Program. Thesis: Pharmacokinetics of Propylene Glycol in the Rabbit. Major Adviser: Prof. R.J. Sawchuk.

**Naftali David Zilverberg**

B.A. '71, Tel Aviv University; M.S. '81, University of Minnesota. Major: Computer and Information Sciences. Minor: Supporting Program. Thesis: Global Minimization for Large Scale Linearly Constrained Systems. Major Adviser: Prof. J.B. Rosen.

**Patrick Gerard Zimmerman, Lomira,  
Wis.**

B.S. '79, Marquette University. Major: Chemistry. Minor: Supporting Program. Thesis: Infrared Laser Induced Heterogeneous Reactions: 2-Propanol with CuO. Major Adviser: Prof. W.E. Farneth.

### **Doctor of Philosophy**

MAYO GRADUATE SCHOOL OF MEDICINE

**T. Jannette Cerveny, Lewisville,  
Tex.**

B.S. '71, M.S. '72, Texas Woman's University. Major: Physiology. Minor: Supporting Program. Thesis: The Interaction of Coagulation Factor V and Vascular Endothelial Cells. Major Adviser: Prof. K.G. Mann.

### **Master of Architecture**

**Brian August Ameche, Malyern, Pa.**

B.A. '75, Yale University. Major: Architecture. Thesis: L'Hotel de France, Milwaukee, Wisconsin. Major Adviser: Prof. R.D. Clemence.

**Sanda Raisa Benesh-Light,  
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Major: Architecture. Thesis: A New Look at Systems-Design: Architecture for Growth, Change and Uncertainty. Major Adviser: Prof. G.C. Rockcastle.

**Israel Gavrieli, Haifa, Israel**

B.Arch. '80, Technion-Israel Institute of Technology. Major: Architecture. Thesis: "Hararit"— A New Settlement in the Lower Galilee. Major Adviser: Prof. R.E. Rapson.

**John Dennis Murphey, Glen Arbor,  
Mich.**

B.A. '81, University of Minnesota. Major: Architecture. Thesis: Goat Hill Lodge. Major Adviser: Prof. Duane Thorbecke.

**George Safford Parker III**  
B.A. '76, Brown University. Major: Architecture.  
Thesis: Spatial Dynamics in the Architecture of the  
Roman Empire. Major Adviser: Prof. R.B. Morrill.

**Melissa Rebecca Stock, Litchfield**  
B.A. '75, Macalester College. Major: Architecture.  
Thesis: A Neighborhood Market Center and Urban  
Design for Litchfield, Minnesota. Major Adviser:  
Prof. R.B. Martin.

**James Andrew Strapko, Minneapolis**  
B.A. '70, Beloit College. Major: Architecture. The-  
sis: A Program and Prototype Design for a Continu-  
ing Care Retirement Community. Major Adviser:  
Prof. R.D. Clemence.

**Lee Paul Zagaria-Meyer**  
B.S. Arch. with distinction '80, University of Ne-  
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the Land: A Museum for the State of Nebraska.  
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## Master of Arts

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jor: Mathematics Education. Minor: Related  
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B.S. '80, University of Minnesota. Major: Agronomy. Minor: Related Fields. Thesis: Quackgrass (*Agropyron repens*) Control and Legume Establishment in Birdsfoot Trefoil (*Lotus corniculatus*), Cicer Milkvetch (*Astragalus cicer*), and Red Clover (*Trifolium pratense*) with Sethoxydim and Ro-13-8895. Major Adviser: Prof. D.L. Wyse.

Carolyn Grace DeWald  
B.A. cum laude '81, St. Olaf College. Major: Mechanics. Minor: Related Fields. Thesis: Evaluation of Rheological Methods for Predicting Liquid Breakup. Major Advisers: Profs. G.S. Beavers and D.D. Joseph.

Gilbert Diatta  
Dipl. Ing. Appl. '78, Nationale Forestiere d'Ingenieurs. Major: Forestry. Minor: Related Fields. Thesis: A Study of Genetic Variation in Drought Resistance of 4-Month-Old Jack Pine (*Pinus banksiana* Lamb) Seedlings. Major Adviser: Prof. C.A. Mohn.

Sammy M. Komi Doamekpor  
B.S. '77, University of Ghana. Major: Animal Science. Minor: Related Fields. Thesis: Carcass Merit and Consumer Preference of Mouflon and Domestic Sheep Breeds. Major Adviser: Prof. W.J. Boyland.

Nancy Susan Duncan, Columbia,  
Mo.  
B.S. with honors '80, University of Missouri. Major: Forestry. Minor: Related Fields. Major Adviser: Prof. M.P. Meyer.

William Walter Durand,  
Minneapolis  
B.E.E. '76, University of Minnesota. Major: Metallurgy and Materials Science. Minor: Electrical Engineering. Thesis: Deformation Processing of Cesium Iodide. Major Adviser: Prof. W.W. Gerberich.

Antoinette Eileen Dzubay,  
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B.S. '81, University of Minnesota. Major: Operations Research. Minor: Related Fields. Major Adviser: Prof. T.O. Kvalseth.

Susan M. Galatowitsch, St. Paul  
B.A. '81, St. Mary's College. Major: Botany. Minor: Related Fields. Thesis: The Effects of Land Use on the Plant Communities of a Sand Prairie in Southeastern Minnesota. Major Adviser: Prof. D.C. Pratt.

Nancy Kay Goebel  
B.A. '78, Hamline University. Major: Food Science. Minor: Related Fields. Major Adviser: Prof. Joan Gordon.

Ruth I. Graber, Northfield  
B.S.N. with high distinction '78, University of Minnesota. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. Kathleen Sodergren.

Robert S. Gremban, Shoreview  
B.A. '80, Bethel College. Major: Chemistry. Minor: Related Fields. Thesis: The Reaction of Oxiranes with Silyl Cyanides. Major Adviser: Prof. P.G. Cassman.

Jody Ann Grider, Cloquet  
B.S. with high distinction '75, University of Minnesota. Major: Food Science. Minor: Related Fields. Thesis: Thermal, Water Loss, and Structural Characteristics of Cakes Made from Flours of Differing Chlorine Levels. Major Adviser: Prof. E.A. Davis.

Phillip Wayne Gronseth, St. Louis  
Park  
B.S. '75, United States Air Force Academy. Major: Physics. Minor: Astrophysics. Major Adviser: Prof. R.K. Hobbie.

Kristine Louise Guenther, Mayville,  
Wis.  
B.A. magna cum laude '78, Carthage College. Major: Medical Microbiology. Minor: Related Fields. Major Adviser: Prof. J.T. Prince.

Bruce David Gunderson,  
Bloomington  
B.E.E. with distinction '79, University of Minnesota. Major: Biometry and Health Information Systems. Minor: Related Fields. Major Adviser: Prof. S.M. Finkelstein.

**Soesilawati Hadisoesilo, Bogor, Indonesia**

Ir. '75. Gadjah Mada University. Major: Entomology. Minor: Related Fields. Thesis: Some Factors Affecting the Quantity and Quality of Nectar Extracted from Oilseed Sunflower in Minnesota. Major Adviser: Prof. Basil Furgala.

**Randal Ray Hamann, St. Anthony**

B.S. '82. University of Minnesota. Major: Forestry. Minor: Statistics. Major Adviser: Prof. M.P. Meyer.

**Janet Lee Hamm, Racine, Wis.**

B.S. '78. University of Wisconsin. Madison. Major: Hospital Pharmacy. Minor: Related Fields. Major Adviser: Prof. R.L. Broekemeier.

**David P. Hammer**

B.S. '77. University of Wisconsin. Madison. Major: Agricultural Economics. Minor: Related Fields. Major Adviser: Prof. J.W. Hammond.

**Sandra Chris Hartje, Minneapolis**

B.S. with high distinction '79. University of Minnesota. Major: Home Economics. Minor: Related Fields. Major Adviser: Prof. R.F. Johnson.

**John Peter Hartley**

B.S. '79. University of Rhode Island. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. O.R. Ruschmeyer.

**Daryl Keith Hexum, Carlisle**

B.S. with honor '80. North Dakota State University. Major: Plant Breeding. Minor: Related Fields. Thesis: Evaluation of Genotypic Variance for Nitrogen Use Efficiency in Corn Through the Use of a Nutrient Efficiency Index. Major Adviser: Prof. J.L. Geadelmann.

**Marilyn M. Hoy, South St. Paul**

B.S. '76. South Dakota State University. Major: Nursing. Minor: Related Fields. Thesis: A Study of Factors Affecting Family Dynamics When an Adult Child and Elderly Parent Live Together. Major Adviser: Prof. F.E. King.

**Alfred Jonathan Huang, Hong Kong**

B.S. '81. Purdue University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. D.H. Du.

**Joanna Huang, Taipei, Taiwan**

B.B.A. '81. National Chengchi University. Major: Statistics. Minor: Related Fields. Major Adviser: Prof. Sanford Weisberg.

**On-Ting John Hui, Hong Kong**

B.S. with honor '75. M.S. '80. University of Waterloo. Major: Biochemistry. Minor: Related Fields. Thesis: Bacteriophage T5 Induced dUTP Hydrolase: Its Purification and Its Role in DNA Replication. Major Adviser: Prof. H.R. Warner.

**Sheliah Joan Jung, Rapid City, S.D.**

B.S. '76. South Dakota State University. Major: Hospital Pharmacy. Minor: Related Fields. Major Adviser: Prof. C.E. Daniels.

**Natalie O. Karachewski, Chicago, Ill.**

B.S. with honors and distinction '72. University of Illinois, Chicago Circle. Major: Medical Microbiology. Minor: Related Fields. Major Adviser: Prof. J.T. Prince.

**Margaret Theresa Kelly, Minneapolis**

B.S. '73. South Dakota State University. Major: Hospital Pharmacy. Minor: Related Fields. Major Adviser: Prof. C.E. Daniels.

**Michael Alan Kilgore, Mora**

B.S. with distinction '82. University of Minnesota. Major: Forestry. Minor: Related Fields. Major Adviser: Prof. P.V. Ellefson.

**Wan Yee Kung, Manila, Philippines**

B.S. '80. University of the Philippines. Major: Nutrition. Minor: Biochemistry. Thesis: Carnitine Metabolism in Normal and Cardiomyopathic Turkeys. Major Adviser: Prof. L.M. Henderson.

**Sheila Jo Leek Leavell, St. Paul**

B.S. cum laude '79. St. Cloud State University. Major: Biometry and Health Information Systems. Minor: Related Fields. Major Adviser: Prof. D.P. Comnelly.

**Christopher James Lomauro**

B.S. with distinction '81. University of Minnesota. Major: Food Science. Minor: Related Fields. Thesis: Diffusion of Water in Foods During Storage. Major Adviser: Prof. A.S. Bakshi.

**E-Ling Lou, Singapore**

B.S. Comp.S. '80. University of Kansas. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. D.H. Du.

**Craig Donavon Mahlberg, Worthington**

B.Ch.E. '74. University of Minnesota. Major: Environmental Health. Minor: Mechanical Engineering. Major Adviser: Prof. C.E. McJilton.

**Russell Allen Martin, Rothschild, Wis.**

B.S. '81. University of Wisconsin. Madison. Major: Animal Science. Minor: Agronomy. Thesis: Body Composition of Lactating and Dry Holstein Dairy Cows Estimated by Deuterium Dilution. Major Adviser: Prof. F.R. Ehle.

Elizabeth Louise McCauslin,  
Minneapolis

B.S.N.'76, University of Arizona. Major: Nursing. Minor: Related Fields. Thesis: Stress and Coping in Mothers Having Children with Seizure Disorders. Major Adviser: Prof. S.S. Rode.

Ellen Marie Meinelt, Edina

B.S.'78, University of Utah. Major: Laboratory Medicine. Minor: Pathobiology. Thesis: Affinity Column Purification of IgE from Human Serum. Major Adviser: Prof. A.R. Page.

Barbara Jane Rager Meyer,  
Superior, Wis.

B.S.'76, William Paterson College of New Jersey. Major: Nursing. Minor: Related Fields. Thesis: A Study To Investigate the Ethical Decision-Making Responses of Staff Nurses in an Acute Care Setting and Staff Nurses in a Long-Term Care Setting. Major Adviser: Prof. Patricia Crisham.

Lydia Ruth Tooker Midness,  
Cannon Falls

B.S. magna cum laude '79, University of Wisconsin, Stout. Major: Food Science. Minor: Related Fields. Thesis: Effect of Alpha-Amylase on the Quality of a Diet Modified Yeast Bread. Major Adviser: Prof. E.H. Asp.

Victoria Lee Morck, St. Paul

B.S.'81, Oregon State University. Major: Forestry. Minor: Related Fields. Thesis: Exploring Information Transfer Between Recreation Managers and Researchers. Major Adviser: Prof. T.B. Knopp.

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B.Comp.S. with high distinction '82, University of Minnesota. Major: Computer and Information Sciences. Minor: Mathematics. Major Adviser: Prof. W.B. Thompson.

Rita Kathleen O'Reilly, St. Louis  
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B.S.N.'80, University of Wisconsin, Oshkosh. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dineen.

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B.S.N. magna cum laude '73, St. Olaf College. Major: Public Health. Minor: Related Fields. Major Adviser: Prof. M.S. White.

Julie Marie Pallasch, St. Paul

B.S.P.T. summa cum laude '79, University of Minnesota, Duluth. Major: Physical Therapy. Minor: Related Fields. Major Adviser: Prof. L.R. Amundson.

John Edward Pappel, Barrie,  
Ontario, Canada

B.S.'78, University of Toronto; D.D.S.'82, McGill University. Major: Dentistry. Minor: Related Fields. Thesis: A Study of the Stability of the Posterior Segments Following Surgical Orthodontic Correction Involving a Posterior Maxillary Crossbite. Major Adviser: Prof. R.R. Bevis.

Robert C. Patterson, Grand Rapids,  
Mich.

B.S.'80, University of Michigan. Major: Environmental Health. Minor: Related Fields. Major Adviser: Prof. C.E. McJilton.

David Gerard Pendrys, West  
Hartford, Conn.

B.A.'73, University of Rochester; D.D.S.'77, Case Western University. Major: Epidemiology. Minor: Biometry and Health Information Systems. Major Adviser: Prof. J.S. Mandel.

Nancy Jo Perkins

B.S. with honor '78, Michigan State University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dineen.

Cheryl Maureen Petersen, St. Paul

B.S.P.T. with distinction '81, University of Minnesota. Major: Physical Therapy. Minor: Related Fields. Major Adviser: Prof. L.R. Amundson.

Kathryn Marie Pfahl

B.A. cum laude '81, College of St. Scholastica. Major: Chemistry. Minor: Related Fields. Thesis: Synthesis and Reactivity of Transition Metal Carbonylates. Major Adviser: Prof. J.E. Ellis.

Annette Marie Pingatore

B.S. cum laude '81, Augsburg College. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. V.C. Gordon.

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Bryan Lee Randall

B.S.'82, Virginia Polytechnic Institute and State University. Major: Forestry. Minor: Statistics. Major Adviser: Prof. A.R. Ek.

Gail Marie Roberts, Minneapolis

B.S.Med.Tech.'76, University of Minnesota. Major: Medical Technology. Minor: Related Fields. Thesis: High Performance Liquid Chromatography Quantitation of Serum Bile Acids with an Immobilized Enzyme Reactor. Major Adviser: Prof. L.D. Bowers.

**Raquel Rodriguez Rodriguez, Puerto Rico**

B.S.Pharm.'81, University of Puerto Rico. Major: Social and Administrative Pharmacy. Minor: Related Fields. Major Adviser: Prof. H.F. Kabat.

**Bridget Anne Ruummele**

B.S.'80, University of Wisconsin, River Falls. Major: Horticulture. Minor: Related Fields. Major Adviser: Prof. D.B. White.

**Paula Reneé Sabart, Long Prairie**

B.A.'81, College of St. Catherine. Major: Microbiology. Minor: Related Fields. Thesis: Biochemical Aspects of the Phytopathogenicity of *Corynebacterium Fascians*. Major Adviser: Prof. R.S. Hanson.

**Wajiha Saeed**

M.S.'79, Quaid-I-Azam University. Major: Animal Physiology. Minor: Related Fields. Thesis: Ovarian Steroids Modulation of the Pituitary Response to TRH in Ovariectomized Turkeys. Major Adviser: Prof. M.E. El Halawani.

**Ronald Louis Sakaguchi**

B.S.'76, University of California, Los Angeles; D.D.S.'80, Northwestern Dental School. Major: Dentistry. Minor: Related Fields. Thesis: Acoustic Transmission Analysis of Joint Function. Major Adviser: Prof. R.J. Goodkind.

**Delores M. Schumann, Madison,**

Wis.  
B.S.Ed.'54, Ohio State University; M.S.'61, Boston University. Major: Animal Physiology. Minor: Related Fields. Major Adviser: Prof. R.E. Phillips.

**Sabina Jo Smith, Fargo, N.D.**

B.S. with distinction '79, University of Minnesota. Major: Animal Science. Minor: Related Fields. Thesis: Study of Nutrient Requirements of Turkey Breeder Hens. Major Adviser: Prof. P.E. Waibel.

**Claire J. A. Spackman, St. Paul**

B.S. with distinction '76, D.V.M.'78, University of Minnesota. Major: Veterinary Surgery, Radiology, and Anesthesiology. Minor: Related Fields. Major Adviser: Prof. D.D. Caywood.

**Howard Graham Stringert,**

Pittsburgh, Pa.  
B.S. magna cum laude '77, Allegheny College; D.D.S. cum laude '81, Creighton University. Major: Dentistry. Minor: Related Fields. Thesis: Variations in Skeletal and Dental Patterns in Patients with Structural and Functional Alterations of the Temporomandibular Joint. Major Adviser: Prof. F.W. Worms.

**Christopher John Stroncek, St.**

Anthony Village  
B.A.E.M.'82, University of Minnesota. Major: Mechanics. Minor: Related Fields. Thesis: The Effect of Large Deformations on Beds of Discreet Fibers. Major Adviser: Prof. G.S. Beavers.

**Han-hsing Tan, Taipei, Taiwan**

B.S.'75, National Chung-Hsing University. Major: Computer and Information Sciences. Minor: Statistics. Major Adviser: Prof. D.H. Du.

**Phuong-Anh Hoan Thai**

B.S.'79, University of Minnesota. Major: Food Science. Minor: Related Fields. Thesis: The Use of Gas Chromatography for Detecting Milk Spoilage. Major Adviser: Prof. S.R. Tatini.

**Cynthia Patrice Valle, Panama City,  
Panama**

B.S. with honors '78, Northeastern University. Major: Nursing. Minor: Environmental Health. Thesis: Reduction of Pain Perception During Labor with Acupressure. Major Adviser: Prof. K.G. Dineen.

**Laura Leighton Van Arsdale,  
Minneapolis**

B.S. summa cum laude '81, California State University. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. K.G. Dineen.

**Mark Patrick Vander Horck, Duluth**

B.S.'80, University of Minnesota. Major: Geology. Minor: Related Fields. Thesis: Diagenesis in the Sioux Quartzite. Major Adviser: Prof. G.B. Morey.

**Lorraine Carol Victor, St. Paul**

B.A.'75, College of St. Scholastica. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. E.C. Egan.

**David Soren Wahl, New Brighton**

B.A. cum laude '79, St. Olaf College. Major: Physics. Minor: Internal. Thesis: Inclusive and Elastic Proton Production at Ninety Degrees. Major Adviser: Prof. M.L. Marshak.

**James Jiingher Wang, Taiwan**

B.S.E.'78, National Taiwan University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. W.D. Munro.

**Mary Lee Weaver, Rippey, Iowa**

B.S.N.'80, Grand View College. Major: Nursing. Minor: Related Fields. Thesis: Comparison of Health Behaviors of Women. Major Adviser: Prof. F.E. King.

Robert Charles Weih, Jr., Winsted, Conn.  
B.S.F. cum laude '82, Northern Arizona University. Major: Forestry. Minor: Statistics. Major Adviser: Prof. M.P. Meyer.

David Paul West, Viroqua, Wis.  
B.S.'78, University of Wisconsin, River Falls. Major: Plant Breeding. Minor: Related Fields. Thesis: Developing a Nuclear Genetic Male-Sterility System for Hybrid Seed Corn Production. Major Adviser: Prof. R.L. Phillips.

Judy Ann Wilking, St. Paul  
B.S.'67, College of St. Catherine. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. E.E. Mansfield.

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Dipl.'68, Nanjing University. Major: Computer and Information Sciences. Minor: Related Fields. Major Adviser: Prof. W.D. Munro.

Pamela Ann Zembal, Fridley  
B.S.'74, University of Wisconsin, Madison. Major: Nursing. Minor: Related Fields. Major Adviser: Prof. S.S. Rode.

Jerald R. Ziemke  
B.S. magna cum laude '81, Mankato State University. Major: Physics. Minor: Electrical Engineering. Major Adviser: Prof. P.J. Ellis.

## Master of Science

UNIVERSITY OF MINNESOTA, DULUTH

Jeffrey Scott Denny  
B.S.'77, University of Minnesota. Major: Biology. Minor: Internal. Thesis: Aquaculture of the Minnesota Bait Leech, *Nepheleopsis obscura*. Major Adviser: Prof. H.L. Collins.

Kriste Ann Ericsson  
B.A.'79, Bethel College. Major: Biology. Minor: Related Fields. Thesis: Woody Vegetation of a Lake Superior Tributary and Stream Invertebrate Colonization of Its Leaves. Major Adviser: Prof. D.J. Schimpf.

David Alan Groves  
B.A.'79, University of Maine, Orono. Major: Geology. Minor: Related Fields. Thesis: Stratigraphy and Alteration of the Footwall Volcanic Rocks Beneath the Archean Mattabi Massive Sulfide Deposit, Sturgeon Lake, Ontario. Major Adviser: Prof. R.L. Morton.

Holly Heyes Hertel  
B.S.'77, Illinois State University. Major: Biology. Minor: Related Fields. Thesis: The Role of Social Niche in Juvenile Wolves: Puppyhood to Independence. Major Adviser: Prof. H.L. Collins.

Timothy Carl Lamey  
B.S.'80, University of Minnesota. Major: Biology. Minor: Related Fields. Thesis: Great Horned Owl Predation on Common Terns: Is Colonial Nesting an Effective Defense Against Predation? Major Adviser: Prof. F.J. Cuthbert.

## Master of Science in Agricultural Engineering

Nelson Kiprop Butuk, Kenya  
B.S.Agr.E. with honors '79, University of Nairobi. Major: Agricultural Engineering. Minor: Related Fields. Thesis: Fluidized Bed Combustion and Gasification of Corn Cobs. Major Adviser: Prof. R.V. Morey.

Shinji Hoshiba  
B.Agr.'73, Hokkaido University. Major: Agricultural Engineering. Minor: Related Fields. Thesis: Generation of Monodisperse Aerosols Pathogenic to Farm Animals Using Spinning Top Generator. Major Adviser: Prof. D.W. Bates.

Patrick Francis McClermon, Tenney  
B.Ag.E. with distinction '81, University of Minnesota. Major: Agricultural Engineering. Minor: Related Fields. Thesis: Design and Development of a Microcomputer System for Animal Electric Current Sensitivity Studies. Major Adviser: Prof. R.J. Gustafson.

## Master of Science in Chemical Engineering

**Bruce Campbell Copley**  
B.S.Chem.'78, B.S.'78, Massachusetts Institute of Technology. Major: Chemical Engineering. Minor: Chemistry. Thesis: The Thermal, Dynamic Mechanical and Morphological Properties of Silicone Adhesives. Major Adviser: Prof. C.W. Macosko.

**Ming-Chien Yang, Taipei, Taiwan**  
B.S.'77, National Tsing Hua University. Major: Chemical Engineering. Minor: Related Fields. Thesis: Spin Coating Flow and the Rheology of Magnetic Suspensions. Major Advisers: Profs. L.E. Scriven and C.W. Macosko.

## Master of Science in Civil Engineering

**Nikitas Bazeos, Athens, Greece**  
Dipl.'80, University of Patras. Major: Civil Engineering. Minor: Related Fields. Major Adviser: Prof. T. Krauthammer.

**Irinie Vgenopoulou, Patra, Greece**  
Dipl.'80, University of Patras. Major: Civil Engineering. Minor: Related Fields. Thesis: Limit Plasticity Analysis of Stability of Empty Channels in Bins and Hoppers. Major Adviser: Prof. Andrzej Drescher.

**Alan Jon Rindels**  
B.C.E. with distinction '81, University of Minnesota. Major: Civil Engineering. Minor: Related Fields. Thesis: Submergence Requirements To Prevent Vortex Formation at Vertical Bellmouth Intakes. Major Adviser: Prof. J.S. Gulliver.

## Master of Science in Electrical Engineering

**William Joseph Head, Brooklyn Center**  
B.E.E.'76, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Thesis: Harmonic Fields in Induction Machines. Major Adviser: Prof. V.D. Albertson.

**Myung-Ho Pec, Korea**  
B.S.E.'77, Seoul National University. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. E.B. Lee.

**Lawrence P. Holmquist, Shafer**  
B.A. summa cum laude '81, Macalester College. Major: Electrical Engineering. Minor: Computer and Information Sciences. Major Adviser: Prof. L.L. Kinney.

**Paul Pukite, Columbia Heights**  
B.E.E. with high distinction '82, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Thesis: The Role of Surface Wave Resonances in Rheed. Major Adviser: Prof. P.I. Cohen.

**Shui-chih Alan Lien**  
B.S.'78, National Taiwan Normal University. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. A.A. Tuszynski.

**Jerri Lynne Smith, Shreveport, La.**  
B.S.E.E.'80, Washington University. Major: Electrical Engineering. Minor: Computer and Information Sciences. Thesis: CMOS A/D Converter Techniques. Major Adviser: Prof. Bernd Hoeflinger.

**Tuan Anh Nguyen, Vietnam**  
B.E.E.'81, University of Minnesota. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. H.M. Wechsler.

**Danh Ngoc Tran**  
B.E.E.'81, University of Minnesota. Major: Electrical Engineering. Minor: Physics. Major Adviser: Prof. Aldert van der Ziel.

**Adam Henry Pawlikiewicz**  
Major: Electrical Engineering. Minor: Physics. Major Adviser: Prof. Aldert van der Ziel.

**James Jiingher Wang, Taiwan**  
B.S.E.'75, National Taiwan University. Major: Electrical Engineering. Minor: Related Fields. Major Adviser: Prof. H.M. Wechsler.

## Master of Science in Geo-Engineering

**Christopher Donald McElligott,  
Edina**

B.Geo-E.'81, University of Minnesota. Major: Geo-Engineering. Minor: Related Fields. Major Adviser: Prof. D.H. Yardley.

## Master of Science in Mechanical Engineering

Yau-Pin Chyou, Taiwan

B.S.E.'80, National Taiwan University. Major: Mechanical Engineering. Minor: Related Fields. Thesis: Modeling of a Convection-Stabilized Arc with Particle Injection. Major Adviser: Prof. Emil Pfender.

Ming-Yih Lee, Taipei, Taiwan

B.S.E.'77, National Taiwan Institute of Technology. Major: Mechanical Engineering. Minor: Industrial Engineering. Thesis: Adaptive Control for a Straightening Process. Major Adviser: Prof. K.A. Stelson.

George Allen Peterson

B.S. with high honors '71, University of Illinois. Major: Mechanical Engineering. Minor: Related Fields. Major Adviser: Prof. J.W. Ramsey.

William David Warnica, Toronto, Canada

B.A.S.'82, University of Waterloo. Major: Mechanical Engineering. Minor: Related Fields. Thesis: Laminar Flow and Heat Transfer Analysis of Internally Spiral-Finned Tubes. Major Adviser: Prof. S.V. Patankar.

Robert Miles Young, Valencia, Calif.

B.S.'81, Stanford University. Major: Mechanical Engineering. Minor: Related Fields. Thesis: A Thermal Plasma Reactor for Thermal Plasma Synthesis. Major Adviser: Prof. Emil Pfender.

## Master of Science in Medicine

MAYO GRADUATE SCHOOL OF MEDICINE

William Francis Young, Jr.,  
Rochester

B.S. with high honor '73, M.D.'78, Michigan State University. Major: Medicine. Minor: Related Fields. Thesis: Regional Localization of Phenol Sulfotransferase Activity in the Human Brain. Major Adviser: Prof. R.M. Weinsilboum.

## Master of Science in Ophthalmology

MAYO GRADUATE SCHOOL OF MEDICINE

David Anson Lee, Valparaiso, Ind.

B.A. summa cum laude '80, Boston University. Major: Ophthalmology. Minor: Biometry and Biophysical Sciences. Thesis: The Effect of the Alpha-Adrenergic System on the Modulation of Aqueous Humor Formation, Intraocular Pressure, Anterior Chamber Volume, and Pupillary Size in the Normal Human Eye. Major Adviser: Prof. R.F. Brubaker.

## Master of Science in Pediatrics

MAYO GRADUATE SCHOOL OF MEDICINE

Pui-Kan Liao, Taipei, Taiwan

M.B.'75, National Taiwan University. Major: Pediatrics. Minor: Pathology. Thesis: Pulmonary Valve Atresia and VSD-Clinical, Angiographic and Pathological Correlation. Major Adviser: Prof. R.H. Feldt.

**Master of Science in Radiology**  
MAYO GRADUATE SCHOOL OF MEDICINE

C. Daniel Johnson, Rochester  
B.S. summa cum laude '75, College of Idaho.  
Major: Radiology. Minor: Pathology. Thesis: Double and Single Contrast Colon Examinations in Carcinoma of the Colon. Major Adviser: Prof. H.C. Carlson.

**Master of Social Work**

Diane Salo Alfs, Duluth

B.A.'72, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.

James Luther Arneson, Grand Forks, N.D.

B.S.S.W.'76, University of North Dakota. Major: Social Work. Major Adviser: Prof. J.K. Quam.

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Kathleen Marie Gilmore

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Stacy Spence Remke, Minneapolis

B.A.'80, Kenyon College. Major: Social Work. Major Adviser: Prof. Esther Wattenberg.

Patricia Rae Rhoades, Minneapolis

B.A. cum laude '78, St. Olaf College. Major: Social Work. Major Adviser: Prof. C.D. Hollister.

Jeremy Hulme Riehle, Minneapolis

B.E.S.'81, University of Minnesota. Major: Social Work. Major Advisers: Profs. P.A. AuClaire and G.S. Hoshino.

Michael D. Schock, Yakima, Wash.

B.A.'77, Fuller Theological Seminary. Major: Social Work. Major Adviser: Prof. C.D. Hollister.

Janice L. Search-Wells, Minneapolis

B.M.'77, University of Michigan. Major: Social Work. Major Adviser: Prof. Esther Wattenberg.

Richard Eli Selvik II, Minneapolis

B.A.'81, St. Olaf College. Major: Social Work. Major Adviser: Prof. C.D. Hollister.

Ronna D. Sherman, St. Paul

B.A.'81, Metropolitan State University. Major: Social Work. Major Adviser: Prof. N.F. Bracht.

Charles Dennis Stephens, Elkhart, Ind.

B.A.S.'81, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.

Marie Yu Stipkovits, Minneapolis

B.S.Ed.'70, State University of New York College, Buffalo. Major: Social Work. Major Adviser: Prof. C.D. Hollister.

Maryann Syers-McNairy, Minneapolis

B.A. with high distinction '74, Arizona State University. Major: Social Work. Major Adviser: Prof. J.K. Quam.

Fern Riecken Willson

B.S.'81, University of Minnesota. Major: Social Work. Major Adviser: Prof. Annalee Stewart.

## Master of Social Work

UNIVERSITY OF MINNESOTA, DULUTH

Marietta Rose Bongiovanni

B.A. summa cum laude '73, University of Minnesota. Major: Social Work. Major Adviser: Prof. J.M. Kramer.

Joanne Yvonne Prochnow

B.A. with honors '71, University of Texas; M.S. '77, St. Cloud State University. Major: Social Work. Major Adviser: Prof. J.M. Kramer.

## Specialist Certificate in Education

Gary Darwin Olson, Maple Grove

B.S.'71, Mankato State University; M.S.'76, St. Cloud State University. Field: Secondary School Administration. Major Adviser: Prof. V.D. Mueller.

Alan Karl Swedberg, Moorhead

B.S.'67, M.S.'69, St. Cloud State University. Field: General Educational Administration. Major Adviser: Prof. R.F. Wcatherman.

Vicki Nord Petzko, Minneapolis

B.S.'72, University of Wisconsin, Madison. Field: Secondary School Administration. Major Adviser: Prof. N.C. Nickerson.

## Summary of Degrees Conferred by the University During the Academic Year 1983-84

Conferred July, August, and December, 1983, and March 1984 . . . . .	6,293
Conferred June 1984 (subject to completion of requirements) . . . . .	5,500
Total degrees conferred (1983-1984) . . . . .	11,793*

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\*Includes 1,172 conferred at Duluth, 244 at Morris, 245 at Crookston, 227 at Waseca, and 10 at Mayo.

## Academic Costume

Academic costume—cap, gown, and sometimes hood—may be worn by anyone with a college degree, or by a candidate whose degree is soon to be awarded. Characteristics of costumes show their wearers' highest degrees and, often, the fields of major interest and the institutions by which the degrees are granted.

All bachelors' and masters' gowns are black and untrimmed. The bachelor's gown has a long pointed sleeve, the master's a closed sleeve with an arm slit. Doctors' gowns in the United States are usually black, with velvet front facings and sleeve crossbars. Some universities, especially those abroad, prescribe colorful crimson, bright red, or other colors, set off by black or colored facings.

At commencements, degree candidates wear the gowns for the degrees they are about to receive. Hoods are worn only by those who already possess degrees. Anyone who has a University of Minnesota degree may wear the Minnesota hood—black with a maroon chevron on gold. The length and shape of a hood identify the most advanced degree its wearer has earned, and the hood's velvet edging shows the degree's field: dark blue for philosophy, light blue for education, green for medicine, lilac for dentistry, orange for engineering, russet for forestry, drab for business, olive green for pharmacy, purple for law, gray for veterinary medicine, golden yellow for science, white for liberal arts.

Caps—usually tasseled mortarboards—show by tassel color the nature of degrees awarded at University of Minnesota commencements. Doctors' tassels may be black or gold; masters' are black. Bachelor's degree candidates at Minnesota, however, indicate their fields of study by their tassel colors:

College of Agriculture . . . . .	maize
College of Biological Sciences . . . . .	golden yellow
Continuing Education and Extension . . . . .	orange and drab
School of Dentistry . . . . .	lilac
College of Education . . . . .	light blue
College of Forestry . . . . .	maize
General College . . . . .	crimson and white
College of Home Economics . . . . .	maize
Law School . . . . .	purple
College of Liberal Arts . . . . .	white
School of Management . . . . .	drab
Medical School . . . . .	green
School of Nursing . . . . .	green
College of Pharmacy . . . . .	olive
School of Public Health . . . . .	green
Institute of Technology . . . . .	orange
University College . . . . .	old gold and white
College of Veterinary Medicine . . . . .	gray

Gold shoulder epaulets are worn by candidates who are honor students.

After receiving their degrees, holders may wear the academic costume on any appropriate occasion, but they always wear the black tassel, and omit the shoulder insignia. Appropriate academic costumes can be obtained anywhere that academic ceremonies are conducted.

## ***Spring 1984 Graduation Events***

**College of Agriculture**, 7 p.m. June 5  
Northrop Memorial Auditorium

**College of Biological Sciences**, 6 p.m. June 9  
North Star Ballroom, St. Paul Student Center

**School of Dentistry**, 7:30 p.m. June 8  
Northrop Memorial Auditorium

**College of Education**, 7:30 p.m. June 7  
Northrop Memorial Auditorium

**College of Forestry**, 5:30 p.m. June 2  
Theater, St. Paul Student Center

**General College**, 2 p.m. June 2  
Auditorium, Willey Hall

**Graduate School**, 7 p.m. June 9  
Northrop Memorial Auditorium

**College of Home Economics**, 7 p.m. June 1  
Auditorium, Willey Hall

**Law School**, 2 p.m. May 19  
Northrop Memorial Auditorium

**College of Liberal Arts**, 1 p.m. June 3  
Northrop Memorial Auditorium

**School of Management**, 2 p.m. June 10  
Northrop Memorial Auditorium

**Medical School**, 2:30 p.m. June 1  
Northrop Memorial Auditorium

**Mortuary Science**, 7:30 p.m. June 8  
Great Hall, Coffman Memorial Union

**School of Nursing**, 2 p.m. June 10  
Mayo Memorial Auditorium

**College of Pharmacy**, 2 p.m. June 9  
Willey Hall

**School of Public Health**, 1 p.m. June 9  
University Club, St. Paul

**Institute of Technology**, 7 p.m. June 1  
Northrop Memorial Auditorium

**University College**, 1 p.m. June 9  
Great Hall, Coffman Memorial Union

**College of Veterinary Medicine**, 2 p.m. June 16  
Northrop Memorial Auditorium