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Appendix A.

UNIVERSITY OF MINNESOTA PRESIDENTS

William Watts Folwell
1869-1884

Cyrus Northrup
1884-1911

George E. Vincent
1911-1917

Marion L. Burton
1917-1920
From Digitalis to Ziagen: The University of Minnesota’s Department of Medicinal Chemistry

Lotus D. Coffman  
1920-1938

Guy Stanton Ford  
1938-1941

Walter C. Coffey  
1941-1945

James Lewis Morrill  
1945-1960
Appendix

O. Meredith Wilson
1960-1967

Malcolm Moos
1967-1974

C. Peter McGrath
1974-1984

Kenneth H. Keller
1985-1988
Appendix B. COLLEGE OF PHARMACY DEANS

Frederick J. Wulling  
1892-1936

Charles H. Rogers  
1936-1956

George P. Hager  
1957-1966

Lawrence C. Weaver  
1966-1984
Gilbert S. Banker
1985-1992

Marilyn K. Speedie
1996-present
Appendix C.
MEDICINAL CHEMISTRY DEPARTMENT HEADS

Glenn L. Jenkins  
1936-1941

Ole Gisvold  
1941-1969

Taito Soine  
1969-1974

Mahmoud M. Abdel-Monem  
1983-1984
Yusuf J. Abul-Hajj
1984-1992; 1996-2005

Rodney L. Johnson

Gunda I. Georg
2007-present
Appendix D.
OUTSTANDING ACHIEVEMENT AWARDS

The Outstanding Achievement Award is the University of Minnesota’s highest award to an alumnus. It is conferred upon former students of the University who have attained distinction in their chosen fields or professions or in public service, and who have demonstrated outstanding achievement and leadership on a community, state, national, or international level.

**George E. Crossen**
B.S. 1933, M.S. 1939, Ph.D. 1940, University of Minnesota.
Assistant Professor, University of Minnesota, 1940-43
Dean of Pharmacy, Drake University, 1943-45
Dean of Pharmacy, Oregon State University, 1945-58

Crossen was awarded the OAA in 1951 in recognition as an eminent author and administrator in pharmaceutical education. He was deemed to be worthy of special commendation for outstanding achievement.

**Coy Webster Waller**
B.S. 1937, University of North Carolina
M.S. 1939, University of Buffalo
Ph.D. 1942, University of Minnesota.
Instructor, State College of Washington, 1942-44
Head, Natural Products Chemistry, American Cyanamid, 1944-57
Director of Chemical Research, Mead Johnson and Company, 1957-66.

Waller was awarded the OAA in 1959 for his outstanding achievements in natural products research and was recognized for his success in the proof of structure and synthesis of folic acid, aureomycin, puromycin, and netropsin.
Charles Herbert Rogers
B.S. 1913, M.S. 1915, University of Michigan
Sc.D. 1918, University of Minnesota.
Instructor, 1913-14, University of Minnesota
Associate Professor & Head of Department of
Pharmacy, University of West Virginia, 1914-17
Professor and Head of Pharmaceutical Chemistry,
1917-36; Dean of Pharmacy, 1936-56; University of
Minnesota

Rogers was awarded the OAA in 1959 for his devotion to
pharmaceutical education and the art and science of pharmacy.
In his role as teacher, author, administrator, and researcher, he
made many notable and lasting contributions to the instruc-
tion of students at both the graduate and undergraduate levels,
to the practice of pharmacy as a vocation indispensible for the
health of the public and the art of science of the apothecary in
an era of “wonder drugs” and for his outstanding contributions
as the second dean of the College of Pharmacy at the University
of Minnesota.

James H. Boothe
B.S. 1939, Washington State College
Ph.D. 1943, University of Minnesota
Senior Research Scientist, Department of Medicinal
Chemistry at Lederle Laboratories Division, American
Cyanamid Company, 1943.

Boothe was awarded the OAA in 1962 for his outstanding work
in medicinal chemistry and the chemistry of natural products.
His initial contributions were on the synthesis of folic acid and
its degradation of products as well as the first total synthesis
of pteropterin. He is renowned for his work on the structural
elucidation of aueromycin, the structure activity relationship
between auromycin and tetracycline as well as the first total
synthesis of chlorotetracycline analogs.
Chauncey I. Cooper
B.S. 1934, M.S. 1935, Ph.D. 1938, University of Minnesota
Instructor, 1935-38; Associate Professor and Acting
Dean, 1938-41; Associate Professor and Dean, 1941-51;
Professor and Dean, 1951-72; Howard University

Cooper was awarded the OAA in 1964 in recognition of his
energetic pursuit of higher educational standards for African
Americans and greater opportunities for African Americans in
pharmaceutical education and for his significant activities that
led to the founding of the National Pharmaceutical Association.

Olav Johan Braenden
B.S. 1942, University of Oslo, Norway
Ph.D. 1950, University of Minnesota,
Social Affairs Officer, United Nations, New York,
1951-55
Chief, United Nations Narcotics Laboratory, Geneva,
1955-68
Chief, Scientific and Technical Section, Division of
Narcotic Drugs, United Nations, Geneva, 1968-76

Braenden was awarded the OAA in 1974 for his outstanding
contributions to the control of drug abuse internationally and
for his training of numerous scientists from all over the world
in methods pertinent to drug abuse.

Michael J. Martell
B.S. 1954, Ph.D. 1958, University of Minnesota
Research Chemist, Lederle Laboratories, 1960-69
Manager for Product Development, American
Cyanamid, 1969-75
Director, Medical Products and Process Chemistry,
American Cyanamid, 1975-85

Martell was awarded the OAA in 1976 for his outstanding
contributions to the tetracycline antibiotic, minocycline, which
proved to be useful for the treatment of a broad spectrum of
diseases.
Aubin Heyndrixcks
B.S. 1948, University of Ghent
M.S. 1952, University of Minnesota
Ph.D. 1953, University of Ghent
Professor and Director, 1958-70; Dean of
Pharmaceutical Sciences, 1970-85; University of
Ghent
Project Director, United Nations Industrial
Development Organization.

Heyndrixcks was awarded the OAA in 1980 in recognition of
being a gifted scholar who improved the teaching and research
of the department and made its laboratory one of the best in
the country. He is a worldwide advisor on toxicology, drug
abuse, and poison control centers and is an internationally
recognized expert in toxicology and forensic science.

Jack R. Cole
B.S. 1953, University of Arizona
Ph.D. 1957, University of Minnesota
Assistant Professor, 1957-58; Associate Professor,
1958-62; Professor, 1962-87; Head, Department of
Pharmaceutical Sciences, 1975-79; Dean, 1977-87;
College of Pharmacy, University of Arizona

Cole was awarded the OAA in 1983 in recognition of his superb
administrative skills of attracting quality faculty and improving
curriculum and obtaining a new building for pharmacy at the
University of Arizona. He is recognized as a expert in the field
of medicinal chemistry involved in the isolation and structural
elucidations of pharmacologically useful agents from plants.

Allen I. White
B.S. 1937, M.S. 1938, Ph.D. 1940, University of Minnesota
Assistant Professor, 1943-45; Associate Professor,
1945-48; Professor, 1948-79; Dean of Pharmacy,
1960-79; Washington State University

White was awarded the OAA in 1985 for his contribution and
innovative leadership in the pharmacy practice and education
and for implementing a clinical pharmacy program that
became a model for other schools. He was also recognized for
his leadership as Dean of Pharmacy at WSU and as president of
the American Association of Colleges of Pharmacy.
Raymond Ernest Counsell
B.S.P. 1953, University of British Columbia
Ph.D. 1957, University of Minnesota
Senior Research Chemist, G. D. Searle and Company, 1957-64
Associate Professor, 1964-69; Professor, 1969-72;
Professor of Pharmacology and Medicinal Chemistry, 1976-99; University of Michigan

Counsell was awarded the OAA in 1989 for his outstanding contributions in medicinal chemistry, especially in the area of tumor-imaging agents and inhibitors of steroidogenesis. One of his compounds is licensed to Cellectar and is in early clinical trials for cancer therapy. He is a fellow of AAAS and has received several awards including the Horner Gold Medal in Pharmacy, American Cancer Society Research Associate Award, the Eleanor Roosevelt International Cancer Fellowship, the Fogarty Senior International Fellowship, and the Genia Czerniak Prize in Nuclear Medicine and Radiopharmacology.

Kuo-Hsiung Lee
B.S. 1961, Medical College of Taiwan
M.S. 1965, Kyoto University, Japan
Ph.D. 1968, University of Minnesota
Assistant Professor, 1970-74; Associate Professor, 1974-77; Professor, 1977-present; Chair of Medicinal Chemistry and Natural Products Division, 1998-2008; Director of Natural Products Laboratory, 1983-present; Keenan Professor of Medicinal Chemistry, 1992-present; University of North Carolina

Lee was awarded the OAA in 1999 for his outstanding contributions as an international leader in medicinal and natural products chemistry and was recognized for his discovery of more than 1,000 new compounds, including several to treat cancer and HIV. As of 2010, Lee has discovered more than 3,000 novel bioactive natural products and synthetic analogs.
Mahmoud M. Abdel-Monem
B.Sc. 1959, Cairo University
Ph.D. 1966, University of Minnesota
Assistant Professor 1970-71, University of Illinois
Assistant Professor 1971-75, University of Minnesota
Associate Professor 1975-80; Professor 1980-87; Head of Medicinal Chemistry 1983-84; University of Minnesota
Dean of Pharmacy, 1987-98; Washington State University

Abdel-Monem was awarded the OAA in 1999 for his overall accomplishments in teaching, research, and service. He performed admirably as an administrator at Minnesota while serving as Department Head, Interim Dean, and Associate Dean. His administrative experience helped him tremendously when he became Dean of Pharmacy at WSU.
Appendix E.

BOOKS AUTHORED BY MEDICINAL CHEMISTRY FACULTY

Frederick J. Wulling

The Evolution of Botany (Evolution Series)
1891

Frederick J. Wulling

Inorganic and Pharmaceutical Chemistry
Wiley & Sons, 1894

Frederick J. Wulling

Pharmacy Forward
Sumac Press, Lacrosse, WI, 1948

Charles H. Rogers

Textbook of Inorganic Pharmaceutical Chemistry, 1st-7th Editions,
Lea & Febiger, 1932-1961

George E. Crossen and Charles H. Rogers

Laboratory Manual of Inorganic Pharmaceutical Chemistry
Burgess Publishing Co., 1946

Charles H. Rogers and Taito O. Soine

Laboratory Manual of Inorganic Pharmaceutical Chemistry
Burgess Publishing Co., 1948

Ole Gisvold and Charles H. Rogers

The Chemistry of Plant Constituents
Burgess Publishing Co., 1938
Charles O. Wilson and Ole Gisvold

*Organic Chemistry in Pharmacy*
Lippincott, 1949

Charles O. Wilson and Ole Gisvold

*Textbook of Organic Medicinal and Pharmaceutical Chemistry, 1st Edition*
Lippincott, 1949
Currently in its 12th Edition

Taito O. Soine and Charles O. Wilson

*Roger’s Inorganic Pharmaceutical Chemistry, 8th Edition*
Lea & Febiger, 1974

John H. Block, E. Roche, Taito O. Soine and Charles O. Wilson

*Inorganic Medicinal and Pharmaceutical Chemistry*
Lea & Febiger, 1974

Albert K. Knevel, Frank E. DiGangi and Stephen R. Byrn

*Quantitative Pharmaceutical Chemistry, 7th Edition*
McGraw Hill, 1977

Mahmoud M. Abdel-Monem and James G. Henkel

*Essentials of Drug Product Quality: Concepts and Methodology*
Mosby, 1978

W. Thomas Shier and D. Mebs

*Handbook of Toxinology*
Marcel Dekker, 1990

W. Thomas Shier

*Mammalian Cell Culture on $5 a Day, A Laboratory Manual of Low Cost Material*
University of The Phillipines, Los Ballos, 1991

Yusuf J. Abul-Hajj and Richard Broderick

*From Digitalis to Ziagen, The University of Minnesota’s Department of Medicinal Chemistry*
University of Minnesota, Minneapolis, 2012.
## Appendix F.

### GRADUATES OF THE DEPARTMENT OF MEDICINAL CHEMISTRY

**Master's and Doctorate Degrees in Pharmaceutical Chemistry**

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Appendix

1968
Lee, Kuo-Hsing PhD
Williams, David Allen PhD

1969
El-Antably, Mohamed Samir M PhD
El Masry, Ahmed Hassan I PhD
Ishaq, Kjhalid Sulaiman PhD
Koechel, Daniel Allen PhD
Larson, Dennis Leroy PhD
Riley, Tomas Nolan PhD
Shipchandler, Mohammed Tyerji PhD

1970
Lattin, Danny Lee PhD

1971
Chen, Chung-HS PhD
Gomaa, Zeinab S PhD
Thaker, Anil K PhD
Kulcsar, Sandor G MS

1972
Genenah, Almour PhD
Gillet, Andree MS
Thompson, Richard MS

1973
Almquist, Ronald PhD
Berg, Eric Pete PhD
Genenah, Ekram PhD
Shirota, Frances PhD
Stinson, Samuel PhD
Egli, Keith MS

1974
Erhardt, Paul W PhD
Lovsted, Elsie PhD

1975
Ahmed, El-Ahmed PhD
Naghaway, Janet PhD
Chen, Chinghsiu MS

1976
Chen, Chi-Ming PhD
Duquette Peter PhD
Lyon Philip Al PhD
Weeks, Charles PhD

1978
Mikhail, Ezzat MS

1979
Chen Ching His PhD
Kam, Sheung Tsa PhD
Magnan, Sanne D PhD
Chiang, Yulin MS

1980
Muldoon, William PhD
Zera, Richard T MS

1981
Alreja, Bipin D PhD
Mangold, Bonnie PhD
Mangold, James PhD

1982
Essawi, Mohamed Hafez PhD
Ramakrishnan K PhD
Meister, Suzanne Mary MS

1983
Brungardt, Catherine PhD
Elfarra, Adnan Abdelrah PhD
Miller, Robert Barker PhD

1984
Elliott, Richard Louis PhD
Kwon, Chul Hoon PhD
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Sugg, Elizabeth Ellen PhD
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Master’s and Doctorate Degrees in Medicinal Chemistry
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2004
Guo, Zhijun    PhD
Jorvig, Erik C  PhD
Kalyanaraman, Natarajan

2005
Carlson, Jonathan C T  PhD
Fisher, Abigail Louise  PhD
Li, Xingnan        PhD
Rao, Priyanka Arvind  MS
Tang, Ye           PhD
Wang, Haiqing      PhD
Wong, Hansen L     PhD

2006
Argikar, Upendra Arvind  PhD
Chou, Tsui-Fen         PhD
Daniels, David John    PhD
Kane, Brian Edmund    PhD
Lao, Yanbin           PhD
Goodell, John Robert  PhD
Raghavan, Bhooma      PhD
Steele, Terry William Joseph  PhD
Vartak, Ashish        PhD
Giraldes, John W      PhD

2007
Lu, Ding            PhD
More, Swati Sudhakar PhD

2008
Balasubramanian, Ranganathan  PhD
Doshi, Jignesh Mahesh      PhD
Loeber, Rachel Lea         PhD
Kending, Cory Shawn        PhD
Addo, Sadiya Noor         MS

2009
Johnson, Thomas Edwin    MS
Norton, Jolanna Alikeh    MS
Steele, Jaeson Charles    MS

2010
White, Brian Richard    PhD
Zhang, Siyi            PhD
Meng, Lei            MS
Pietsch, Kathryn E    MS

2011
Das, Sonia Goutam Kumar  PhD
Ming, Xun            MS
Appendix G.
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