



美國 藥學研究所 介紹

美國明尼蘇達州立大學藥學研究所博士班

湯偉明

很抱歉到現在才提起筆桿覆信，希望此致礙編輯工作的進行。若有任何不便之處，此致。閒話不多提了。言歸正傳，據我所知，從北畢業的僑生現旅居於美國者共有三人，計有清梅（來自馬來西亞檳城）目前已是兩個孩子，及第八屆的譚維信（香港）及我。譚兄現于vier 大學藥學系臨床藥學的副教授，所以我美國藥學研究所的概況較為貼切，希望這些有志求學的校友有些幫助。

全美國共有七十四間大專學所設有藥學系有研究所的有五十六間。據一九七四年的統計研究所的共有一千五百人左右，其中來自外國七十人之多（約 30%）從數字看來，在美國業的，大部份對研究所不大嚮往，可能是唸研後的出路展望並非有很大的吸引力關係。故此不少外地人才來維持他們研究發展了。唸藥學數佔最高的是來自中華民國（125人），其次102人），再次是香港（41人）及韓國（27人）括來說，差不多每一處藥學研究所，皆可以國的面孔。更不用說是美國的著名藥學雜誌 *Journal of Pharmaceutical Sciences* 屢屢會看到不少人的稿件。

研究所通常是有藥劑、藥化、生藥、藥理、Hospital Pharmacy 之分。各自成一系。國的劃分制度是與別不同的，如普渡大學（Purdue University）設有 Bionucleonics, Radiopharmacy, Clinical Pharmacy; 威斯康辛（Wisconsin）設有 Pharmaceutical Biochemistry 及 History of Pharmacy; SUNY at Buffalo 設有 Biochemistry, Biochemical Pharmacology; Kentucky 設有 *Journal of Pharmacy and Therapeutics* 及 *Journal of Pharmacy and Therapeutics* 等等。

目前最多人就讀的科系是藥劑及藥化。此兩門是最吃香的出路。最有名氣的幾間是 Michigan, SUNY-Bufferlo, Kansas 及 Ohio State University, 教授及研究生衆多，研究經費鉅大，故每多一個 Teaching 或 Research Assistantship。

攻讀 M.S. 學位需時約兩年，直攻 Ph.D. 需時四年，大部份學校目前已趨向多「製造」Ph.D. 生，S, Hospital Pharmacy 一科祇設有 M.S. 學位，因為外國學生不能領到美國藥劑師執照，所以生多不被考慮申請。近年來新設的 Pharm.D. 漸趨普遍，目前已有十九間大學開辦。此為

clinical program。關於此Program的內容，譚維信同學已於前期的北醫藥學系會刊談論過，不便重覆。藥理系有的是歸併入醫學院裏，藥學系開設的藥理系多是包括毒物學在內。最近美國對於環境污染及安全方面十分着重，毒物學此一門已由冷門漸趨向熱門。生藥學現已走向下坡，大學所授的課程很多學校已不包括在內，有者亦是虛有其名，無乎其實。所授者是微生物學、免疫學、抗生素及其他生物製劑的課程。有幾間大學已有打算將生藥學歸入藥化。藥事行政一門比較少外國學生攻讀，而且很難獲得 Assistantship。大部份留學生是由國家派到美國進修此課程的。藥劑的主要課程是 Physical Pharmacy，以 Formulation 一環最容易找到工作。最近藥劑科多加一環 Biopharmaceutics，是研究藥物在體內的吸收，分佈代謝及排泄情形（即是 Pharmacodynamics）。藥物化學以有機化學合成為主，分析為次，天然物化學抽取已漸減少，反之，研究藥物代謝（Drug Metabolism）已大增，畢業後出路亦不錯。

另外要一提的是普渡大學（Purdue）獨家設有的 Bionucleonics（即 Nuclear Medicine 及 Radiopharmacy 一類），雖屬冷門，但畢業後的收入較一般科系畢業生的多一倍，據一位唸 Bionucleonics 的人說他預料他的壽命會縮短六年。你認為值得與否？攻讀公共衛生 M.P.H. degree 亦是明智之舉，哈佛大學的 M.P.H. Program 是首屈一指。藥學系畢業的也可進修基本醫學課程，如生物化學、生理學、微生物學、病理學、臨床化學（clinical chemistry）解剖學（包括組織學、胚胎學）、藥理學等等。

申請入學的資格是沒有一定的標準，通常是以大學的成績（平均 B 以上）及教授的推薦書為根據，但有些學校，如普渡、俄亥俄州立大學，都需要 GRE（Graduate Record Examination）來作參考，若能拿到一百分便沒問題了。托福（TOEFL）考試不用說是每一個學生都要通過的一關，最少要拿五百分才算是 O.K.。

留學生多是依靠 Teaching Assistantship 或是 Research Assistantship 來維持一切的費用。前者是助教名義，大多不用擔任教書任務，主要是改考卷及準備實驗物品及器材，工作很輕鬆，申請 T.A. 是要看運氣，因為每系所擁有的 T.A. 名額是固定的，若是沒有留學生畢業便沒有 T.A. 的空缺了。T.A. 的聘任期為九個月，薪金由一千八百到四千五百美元不等。Research Assistantship 是由教授個人的研究基金所提出來的

。換句話說，R.A. 所擔任的工作都是與他「老闆」的研究有關係的，大部份的工作可歸入自己的畢業論文。申請 R.A. 大多是直接向教授接觸表明你對他的研究有濃厚的興趣，他便會考慮你的申請。另一方面要清楚的是要查明白某位教授擁有充裕的研究費，當然是那些研究活躍的才有政府及其他私人機構資助。以下是一些最近頒發研究費的資料以供參考：

Auburn University,

Dr. Man M. Kochar, "Drug Abuse Screening Program" \$95,368

University of Connecticut,

Dr. John M. Edwards, "Study of Plant-derived Antineoplastic Principles which Diminish the Weight of Tumors" \$42,375 (3 years)

Purdue University,

Drs. H.G. Floss, J.E. Robbers and P. F. Heinsteint, "Biosynthesis of Ergot Alkaloids" \$192,135 (3 years)

Dr. Victor F. Smolen, "Development of Methodologies for Evaluating the Pharmacological Effectiveness and Bioavailability of Anti-anginal Organic Nitrates" \$52,000

Dr. William A. Remers, "Synthesis of Mitomycin Analogs" \$29,682 and "Synthesis of Anthracycline Analogs as Potential Tumor Inhibitors" \$19,849

Dr. Jerry L. McLaughlin, "Cacti as Drugs of Abuse" \$21,789 (3 years)

University of Kansas,

Dr. T. Higuchi, "Theoretical and Experimental Investigation of Solubilization and Hydrolytic Processes" "Improving Oral Bioavailability of Some Antimalarials"

"Development of Parenteral Dosage Forms for Clinical Investigation" ...

.....
Dr. J.H. Rytting, "Effect of Temperature and Pressure on Blood Platelets" & "Temperature and Pressure

- Effects on Blood Components"
- Dr. Valentino Stella, "Thiamine Prodrugs in Alcoholism and Encephalopathies" \$76,127
- University of Kentucky,
 Dr. Louis Diamond, "Drug Product Efficacy Studies" & "Tobacco and Health Research" \$300,000
 Dr. Patrick P. DeLuca, "IV Fluid Administration Products" \$29,000
 Dr. Laurence H. Hurley, "Biosynthesis and Mode of Action of Anthramycin" \$35,258 (3 years)
- Northeastern University,
 Dr. Albert H. Soloway and Dr. John L. Neumeyer, "Synthesis of Potential CNS Antitumor Agents" \$177,854
 Dr. Roger Giese,
 "A New Approach to ⁷⁵Se Pancreatic Imaging Agents" & "Immunoassay of Drugs of Abuse."
- Wayne State University,
 Dr. Andrew K.S. Ho,
 "Interaction Studies with Stimulants and Depressants in Animals"
 \$131,885
- University of Minnesota,
 Dr. Robert Vince,
 "Production of Chemical Compounds Intended to Interrupt the Growth Process of Cancer Cells" \$138,644 (3 years)
- Medical University of South Carolina,
 Dr. John B. Hymes,
 "Synthesis of New Antifolate Agents"
 \$109,000 (3 years)
- University of Mississippi,
 Dr. Norman J. Doorenbos,
 "Ciguatera Fish Toxin" \$43,000
 Dr. Arthur H. Kibbe,
 "Pharmacodynamics of Stimulant Self-Administration" \$44,318 (2 years)
- Dr. Ronald F. Borne,
 "Neurological Diseases" \$63,000
 Dr. Carlton Turner,
 "Marijuana Investigation" \$91,543
- University of Missouri,
 Dr. Jimmie L. Valentine,
 "Development of Low Cost Fluorimetry Technology for Detection and Quantification of Binoids in Body Fluids and Blood"
 \$91,543
- University of North Carolina,
 Dr. Ben Williams and Wayne P. Lee,
 "Drug-taking for Hypertension in Rural Community" \$253,623 (3 years)
 Dr. Kuo-Hsiung Lee,
 "Plant Antitumor Agents" \$180,000
- Ohio State University,
 Dr. Jack Beal,
 "Antimicrobial Principles of Phyllanthus lanceolatus" \$56,000
 "Phytochemical Search for Medicinal Constituents" \$103,668 (3 years)
- University of Tennessee,
 Dr. Sidney A. Rosenbluth,
 "Extended Pharmacy Roles in Geriatric Care" \$65,492 (4 years)
 Materials Science Toxicology Laboratories,
 "Toxicology of Thermodegraded Products of Polymers and Fibers"
 \$135,000
- University of Houston,
 Dean Joseph P. Buckley,
 "Mechanisms in Angiotensin-Induced Hypertension" \$52,044 (1st year)
 Dr. Bhagavan S. Jandhyala,
 "Chronic Cardiovascular Effects of Marijuana" \$42,000
- University of Texas,
 Dean James Doluisio and Dr. G. Yakatan,
 Drug Dynamics Institute

" Bioavailability of Azetazolamide
from Tablets " \$33,674
" Pharmacokinetics of a Novel Anti-
inflammatory Agent " \$16,000
" Bioavailability of Hydroflumethiazide
" \$14,000

Dr. Jean Scholler,
" Absorption, Distribution, Metabol-
ism and Excretion of Sterigmatocys-
tin in Rats " \$58,629

University of Utah,

Dr. Leroy B. Townsend,
" Synthesis of Bicyclic Pyrimidine
Nucleosides " \$73,000

Dr. James A. McCloskey,
" Mass Spectrometry of Nucleic acids
and Their Analogs " \$73,790

Dr. Michael R. Franklin,

" Polycyclic Hydrocarbon Carcinogen-
esis " \$31,587

Dr. Charles D. Poulter,
" Nucleic Acids Containing Antitumor
Antimetabolites " \$36,575

Dr. Sen-Maw Fang " Pharmacodynamics
of Contraceptive Progestins " \$36,330

Medical College of Virginia,

Dr. John Wood,
" Bioavailability of Tetracyclines "
\$104,239 (2 years)
" Bioavailability of Cardiac Glycosides
" \$262,230 (3 years)

University of Washington,

Dr. Larry A. Spitznagle,
" Study of Imagin Agents " \$54,197

University of Wisconsin,

Dr. D. Perlman,
" Cytotoxicity of Plant Extracts and
Fractions " \$40,000

" Microbial Transformations of Car-
bohydrates " \$10,500

" Microbial Metabolite Inhibition of
Tumor B₁₂ Binding " \$38,739

Dr. Peter G. Welling,
" Factors Influencing GI Drug Absorp-
tion. " \$30,638

Dr. Charles J. Sin,
" Prostaglandins and other Physiologi-
cally Active Lipids " \$49,512

Dr. Paul Bass,
" Flow and Electric Measurements of
Stomach-Intestine " \$49,694

Dr. Thomas A. Rudy,
" ACh and CNS Thermoregulatory
Processes " \$31,886

從以上的資料，不僅可以知道究竟目前美國藥學研
究方針（例如：研究 Antitumor Agents, Drug Abuse
及 Drug Bioavailability 是最積極的），也可以知
道某教授是專於某一方面的研究，向他們直接表示自己的
興趣及申請 R.A. 的補助是比較盲目的探索機會大。

美國藥學研究所概況已作簡單的介紹過了，內容所
提及的一切可能不合乎所需，有志繼續深造的校友若有
任何問題或需要幫助，請函 Mr. Wai-Ming Tom, 524
Huron st. S. E. Apt. 3, Minneapolis, Minnesota
55414 U. S. A. ，我會儘量抽空答覆來信。

所謂「萬事起頭難」，希望你們能克服多方面的困
難去創辦此北醫僑生的刊物，鼓勵的話我不會說了，
謹祝北醫僑生創刊成功。

第八屆藥學系校友湯偉明

1975.10.31

Table 1. October 1974 full-time graduate enrollment in Masters programs

Member college or school	Pharm. ^a		Ph. Chm ^b		Phcog. ^c		Phcol. ^d		Ph. Adm ^e		Hosptl. ^f		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Auburn University	4 (4)	4 (4)	2	1 (1)			3	2			2	1	11 (4)	8 (5)
▲University of Arizona											4*	0	4*	0
University of the Pacific	4	1					6 (1)	2 (1)			5	1	15 (1)	4 (1)
University of Southern California			10 (2)	0									10 (2)	0
University of Colorado	0	1 (1)									2 (1)	2	2 (1)	3 (1)
University of Connecticut	1 (1)	0	0	1	2	0	1	1			4	0	8 (1)	2
University of Florida	9	0									2	0	11	0
University of Georgia	3	2 (1)	3	0			0	4 (1)	1	0			7	6 (2)
Idaho State University							5 (2)	2					5 (2)	2
University of Illinois			7 (1)	9 (5)									7 (1)	9 (5)
Purdue University	8	6 (1)	16	4 (2)	0	2 (1)	11	1	0	1			35	14 (5)
University of Iowa	5 (2)	0	1	2					1	0	5	1	12 (2)	3
University of Kansas	1 (1)	1 (1)	1 (1)	0							5 (1)	0	7 (3)	1 (1)
University of Kentucky							0	1					0	1
Northeast Louisiana University	0	1 (1)			3	1					3	0	6	2 (1)
University of Maryland	4 (3)	1	4 (1)	1 (1)			3	1			6	0	17 (4)	3 (1)
Massachusetts College of Pharmacy	11 (5)	2	5 (3)	2 (2)			3 (1)	0					19 (9)	4 (2)
University of Michigan	2 (2)	0	2 (2)	0							2	0	6 (4)	0
Wayne State University	1 (1)	3 (3)	1 (1)	1 (1)	1	0	4 (1)	1			0	1 (1)	7 (3)	6 (5)
University of Minnesota	1 (1)	0			2 (1)	2 (1)	0	1	3	1 (1)	6 (1)	2 (1)	12 (3)	6 (3)
University of Mississippi	2 (2)	1	2	0	6 (1)	5 (2)	3 (2)	2	7	2	0	1	20 (5)	11 (2)
University of Montana	2 (2)	0			1 (1)	0							3 (1)	0
University of Nebraska	1 (1)	0	0	2	4 (1)	1 (1)	1	1					6 (2)	4 (1)
Rutgers University	2	0	1 (1)	1 (1)			0	2					3 (1)	3 (1)
Columbia University	1 (1)	0					1	0					2 (1)	0
Brooklyn College of Pharmacy									11 (5)	3 (1)			11 (5)	3 (1)
St. John's University	3 (1)	1 (1)							1 (1)	0	1	0	5 (2)	1 (1)
▲State University of N. Y. at Buffalo			1	2									1	2
▲University of North Carolina	1	1	2	1							5	4	8	6
North Dakota State University	3	1	2 (1)	0	1	1 (1)	1	0			11	2	18 (1)	4 (1)
Ohio State University	1 (1)	0	2	0	0	1 (1)			3	0	11 (1)	4 (1)	17 (1)	5 (1)
University of Cincinnati			1 (1)	0									1 (1)	0
University of Toledo			1 (1)	0							1	0	2 (1)	0
University of Oklahoma	4 (2)	0	3 (2)	0			4 (1)	2 (1)			8	0	19 (5)	2 (1)
▲Oregon State University			1	0	1	0					3	0	5	0

West Virginia University	2	0	0	7	9
University of Wisconsin at Madison	27	13	1	25	66
Total	640	419	8	472	1539

Institutions Currently Holding Membership in
the American Association of Colleges of Pharmacy

ALABAMA

School of Pharmacy
Auburn University (1905)^①
Auburn 36830
Dean Ben F. Cooper

School of Pharmacy
Samford University (1952)
Birmingham 35209
Dean John E. Wintter

ARIZONA

College of Pharmacy
University of Arizona (1952)
Tucson 85721
Dean Willis R. Brewer

ARKANSAS

School of Pharmacy
University of Arkansas Medical
Center (1952)
Little Rock 72201
Dean Stanley G. Mittelstaedt

CALIFORNIA

School of Pharmacy
University of California (1942)
San Francisco 94143
Dean Jere E. Goyan

School of Pharmacy
University of the Pacific
(1960)

Stockton 95211
Dean Ivan W. Rowland

School of Pharmacy

University of Southern
California (1918)
Los Angeles 90033
Dean John A. Biles

COLORADO

School of Pharmacy
University of Colorado (1921)
Boulder 80302
Dean V. Gene Erwin

CONNECTICUT

School of Pharmacy
University of Connecticut
(1935)
Storrs 06268
Dean Arthur E. Schwarting

DISTRICT OF COLUMBIA

College of Pharmacy and
Pharmaceutical Science
Howard University (1926)
Washington 20059
Dean Ira C. Robinson

FLORIDA

School of Pharmacy
Florida Agricultural and
Mechanical University (1954)
Tallahassee 32307
Dean Charles A. Walker
College of Pharmacy
University of Florida (1925)
J. Hillis Miller Health Center
Gainesville 32610
Dean Kenneth F. Finger

GEORGIA

Southern School of Pharmacy
Mercer University (1948)
Atlanta 30312
Dean Oliver M. Littlejohn

School of Pharmacy
University of Georgia (1928)
Athens 30601
Dean Kenneth L. Waters

IDAHO

College of Pharmacy
Idaho State University (1927)
Pocatello 83201
Dean Frank P. Cosgrove

ILLINOIS

College of Pharmacy
University of Illinois (1900)
Chicago 60680
Dean August P. Lemberger

INDIANA

College of Pharmacy
Butler University (1927)
Indianapolis 46208
Dean Karl L. Kaufman
School of Pharmacy and
Pharmaceutical Sciences
Purdue University (1901)
Lafayette 47907
Dean Varro E. Tyler

IOWA

College of Pharmacy

Drake University (1942)
Des Moines 50311
Dean Byrl E. Benton

College of Pharmacy
University of Iowa (1901)
Iowa City 52242
Dean Dale E. Wurster

KANSAS

School of Pharmacy
University of Kansas (1900)
Lawrence 66044
Dean Howard E. Mossberg

KENTUCKY

College of Pharmacy
University of Kentucky (1900)
Lexington 40506
Dean Joseph V. Swintosky

LOUISIANA

School of Pharmacy
Northeast Louisiana University
(1957)
Monroe 71201
Dean Kenneth R. Shrader

College of Pharmacy
Xavier University of Louisiana
(1933)
New Orleans 70125
Dean Duane L. Aldous

MARYLAND

School of Pharmacy
University of Maryland (1900)
Baltimore 21201
Dean William J. Kinnard, Jr.

MASSACHUSETTS

Massachusetts College of
Pharmacy (1900)
179 Longwood Avenue
Boston 02115
Dean William H. Parsons

College of Pharmacy and
Allied Health Professions
Northeastern University (1952)
Boston 02115
Acting Dean Albert H. Soloway

MICHIGAN

School of Pharmacy
Ferris State College (1938)
Big Rapids 49307
Dean Richard A. Ohvall

College of Pharmacy
University of Michigan (1900)
Ann Arbor 48104
Dean Tom D. Rowe

College of Pharmacy and
Allied Health Professions
Wayne State University (1925)
Detroit 48202
Dean Eberhard F. Mammen

MINNESOTA

College of Pharmacy
University of Minnesota (1901)
Minneapolis 55455
Dean Lawrence C. Weaver

MISSISSIPPI

School of Pharmacy
University of Mississippi
(1913)
University 38677
Dean Wallace L. Guess

MISSOURI

St. Louis College of Pharm-
acy (1900)
4588 Parkview Place
St. Louis 63110
Dean Byron A. Barnes

School of Pharmacy
University of Missouri at
Kansas City (1948)

Kansas City 64110
Dean Donald L. Sorby

MONTANA

School of Pharmacy
University of Montana (1917)
Missoula 59801
Dean Robert L. Van Horne

NEBRASKA

School of Pharmacy
Creighton University (1916)
Omaha 68131
Dean Robert J. Gerraughty

College of Pharmacy
University of Nebraska (1913)
Omaha 68105
Dean Albert R. Haskell

NEW JERSEY

College of Pharmacy
Rutgers University, The
State University of New
Jersey (1923)
New Brunswick 08903
Dean Roy A. Bowers

NEW MEXICO

College of Pharmacy
University of New Mexico
(1952)
Albuquerque 87131
Dean Carman A. Bliss

NEW YORK

College of Pharmaceutical
Sciences in the City of
New York
Columbia University (1939)
115 West 68th Street
New York 10023
Dean Stephen M. Gross

Brooklyn College of Pharmacy
Long Island University (1939)

600 Lafayette Avenue
Brooklyn 11216
Dean John J. Sciarra

College of Pharmacy and
Allied Health Professions
St. John's University (1951)
Jamaica 11439
Dean Andrew J. Bartilucci

School of Pharmacy
State University of New York
at Buffalo (1939)
Buffalo 14214
Dean Michael A. Schwartz

Albany College of Pharmacy
Union University (1945)
Albany 12208
Dean Walter Singer

NORTH CAROLINA

School of Pharmacy
University of North Carolina
(1917)
Chapel Hill 27514
Dean Seymour M. Blaug

NORTH DAKOTA

College of Pharmacy
North Dakota State University
(1922)
Fargo 58102
Dean Philip N. Haakenson

OHIO

Raabe College of Pharmacy
Ohio Northern University
(1925)
Ada 45810
Dean LeRoy D. Beltz

College of Pharmacy
Ohio State University (1900)
Columbus 43210
Dean Lloyd M. Parks

College of Pharmacy
University of Cincinnati
(1947)
Cincinnati 45221
Dean Arthur C. Glasser

College of Pharmacy
University of Toledo (1941)
Toledo 43606
Dean Joseph Judis

OKLAHOMA

School of Pharmacy
Southwestern Oklahoma State
University (1951)
Weatherford 73096
Dean Walter L. Dickison

College of Pharmacy
University of Oklahoma (1905)
Norman 73069
Dean Charles W. Blissitt

OREGON

School of Pharmacy
Oregon State University (1915)
Corvallis 97331
Dean Charles O. Wilson

PENNSYLVANIA

School of Pharmacy
Duquesne University (1927)
Pittsburgh 15219
Dean Bruce D. Martin

Philadelphia College of
Pharmacy and Science (1900)
43rd Street and Kingsessing
Avenue
Philadelphia 19104
Dean Linwood F. Tice

School of Pharmacy
Temple University of the
Commonwealth System of

Higher Education (1928)
3307 North Broad Street
Philadelphia 19140
Dean Joseph D. McEville
School of pharmacy Univer
of pittsburgh (1900)
Pittsburgh 15261
Dean Joseph A. Bianculli

PUERTO RICO

College of Pharmacy
University of Puerto Rico
(1925)
Rio Piedras 00931
Dean Hector A. Lozada

RHODE ISLAND

College of Pharmacy
University of Rhode Island
(1958)
Kingston 02881
Dean Heber W. Youngken, Jr.

SOUTH CAROLINA

School of Pharmacy
Medical University of South
Carolina (1940)
Charleston 29401
Dean William H. Golod

College of Pharmacy
University of South Caroli
(1928)
Columbia 29208
Dean Julian H. Fincher

SOUTH DAKOTA

College of Pharmacy
South Dakota State Univer
(1908)
Brookings 57006
Dean Raymond E. Hoppner

TENNESSEE

Center for Health Science

University of Tennessee
(1914)
Memphis 38103
Acting Dean Martin E. Hamner

TEXAS

School of Pharmacy
Texas Southern University
(1952)
Houston 77004
Dean Patrick R. Wells

College of Pharmacy
University of Houston (1952)
Houston 77004
Dean Joseph P. Buckley

College of Pharmacy
University of Texas at
Austin (1926)
Austin 78712
Dean James T. Doluisio

UTAH

College of Pharmacy
University of Utah (1951)
Salt Lake City 84112
Dean Ewart A. Swinyard

VIRGINIA

School of Pharmacy
Virginia Commonwealth
University (1908)
Medical College of Virginia
Campus
Richmond 23298
Dean Warren E. Weaver

WASHINGTON

School of Pharmacy
University of Washington
(1903)
Seattle 98195
Dean Jack E. Orr

College of Pharmacy
Washington State University
(1912)
Pullman 99163
Dean Allen I. White

WEST VIRGINIA

School of Pharmacy
West Virginia University (1920)
Morgantown 26506
Dean Louis A. Luzzi

WISCONSIN

School of Pharmacy
Center for Health Sciences
University of Wisconsin at
Madison (1900)
Madison 53706
Dean D. Perlman

WYOMING

School of Pharmacy
University of Wyoming (1951)
Laramie 82071
Dean Jack N. Bone

AFFILIATE MEMBERS

CANADA

Faculty of Pharmacy and
Pharmaceutical Sciences
University of Alberta (1959)
Edmonton 7, Alberta
Dean Mervyn J. Huston

Faculty of Pharmaceutical
Sciences
University of British Columbia
(1958)
Vancouver 8, British Columbia
Dean Bernard E. Riedel

Faculty of Pharmacy
University of Montreal (1964)
Montreal 101, Quebec
Dean Julien E. E. Braun

Faculty of Pharmacy
University of Toronto (1958)
Toronto, Ontario, M5S 1A1
Dean William E. Alexander

College of Pharmacy
University of Saskatchewan
(1968)
Saskatoon, Saskatchewan,
S7N 0W0
Dean Wesley C. MacAulay

College of Pharmacy
Dalhousie University (1969)
Halifax, Nova Scotia
Director Robert S. Tonks

PHILIPPINES

College of Pharmacy
University of the Philippines
(1917)
Diliman, Quezon City
Dean Juanito B. Abcede

GOVERNMENTAL MEMBERS

Veterans Administration
Department of Medicine and
Surgery
810 Vermont Avenue
Washington DC 20420

US Public Health Service
Department of Health,
Education and Welfare
Washington DC 20201

① Figure in parentheses denotes
year each institution was
admitted to the Association

Duquesne University	4 (2) 0	4 (2) 1 (1)			6	1							14 (4)	2 (1)	16 (8)
Philadelphia College of Pharmacy and Science	4 (4) 2 (2)	6 (2) 3 (1)	2 (2) 1		3	1							15 (8)	7 (3)	22 (11)
Temple University	3	2 (1)	3	1 (1)			4	0			2	0	12	3 (2)	15 (2)
University of Pittsburgh	10 (5) 0	2 (1) 0		1 (1) 0									13 (7)	0	13 (7)
University of Rhode Island	5	2 (1)	3 (2) 3 (2)	4 (1) 1 (1)	5	1	4	1 (1)					21 (3)	8 (5)	29 (8)
University of South Carolina	3 (1) 0	4	2 (1)			1	0				2	0	10 (1)	2 (1)	12 (2)
▲University of Tennessee	1	0		1	0								2	0	2
University of Houston	0	1 (1)	3 (2) 0								3	1	6 (1)	2 (2)	8 (3)
University of Texas at Austin	4 (2) 1 (1)	1 (1) 0											5 (3)	1 (1)	6 (4)
▲Virginia Commonwealth University						1*	0						1*	0	1*
University of Washington	2	3 (1)	5	0		1*	0				4	3 (1) 11, 1*	6 (2) 17, 1* (2)		
Washington State University	1 (1) 1			1	0								2 (1)	1	3 (1)
West Virginia University	0	2 (1)	4 (3) 3 (3)										4 (3)	5 (4)	9 (7)
University of Wisconsin at Madison	15 (9) 2 (2)	5 (3) 1 (1)	5 (2) 0		12 (4) 0		2 (1) 0		7	2			46 (19)	5 (3)	51 (24)
Total Masters	126 (54) 42 (22)	108 (34) 41 (22)	35 (10) 15 (8)		77 (2) 26 (3)		33 (7) 8 (3)		100 (4) 25 (4)	479	157	636			
Total Masters*					2*				4*	6*	6*				
Grand total	126	42	108	41	35	15	79	26	33	8	104	25	485	157	642

Table 2. October 1974 full-time graduate enrollment in Doctoral programs

Member college or school	Pharm. ^a		Ph.Chm. ^b		Phcog. ^c		Phcol. ^d		Ph.Adm. ^e		Hosptl. ^f		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
▲University of Arizona			1	0											
University of California			41 (13)	15 (8)									1	0	1
University of the Pacific	3	0					5 (2)	1					41 (13)	15 (8)	56 (21)
University of Southern California			8	3									8 (2)	1	9 (2)
University of Colorado							3	2 (2)	1	0			8	3	11
													4	2 (1)	6 (1)
University of Connecticut	19 (10)	0	3 (1)	1 (1)	5	1 (1)	6	5					33 (11)	7 (2)	40 (13)
University of Florida	6	0	10 (1)	2									16 (1)	2	18 (1)
University of Georgia	4 (3)	0	6 (4)	0			3 (1)	0	1	1			14 (8)	1	15 (0)
University of Illinois			4 (2)	2 (2)									4 (2)	2 (2)	6 (4)
Purdue University	22 (3)	3	46	6 (3)	1	0	11 (1)	2	1	0			81 (4)	11 (3)	92 (7)
University of Iowa	5 (2)	0	2	1	2	0			2 (1)	0			11 (3)	1	12 (3)
University of Kansas	20 (13)	4 (3)	27 (6)	1			9 (4)	1 (1)					56 (22)	6 (4)	62 (27)
University of Kentucky	8 (3)	0	4 (1)	0									12 (4)	0	12 (4)
Northeast Louisiana University	1 (1)	0											1 (1)	0	1 (1)
University of Maryland	3	0	3	1 (1)	2	0	3	1					11	2 (1)	13 (1)

Massachusetts College of Pharmacy	1 (1)	2 (2)	2 (1)	3 (2)	0	1 (1)	1 (1)	1 (1)		4 (3)	7 (6)	11 (10)	
Northeastern University			5 (2)	2						5 (2)	2	7 (7)	
University of Michigan	21 (10)	4 (2)	22 (6)	3 (2)	0	2 (1)				43 (16)	9 (5)	52 (41)	
Wayne State University	2 (1)	0					4 (1)	0		6 (2)	0	6 (6)	
University of Minnesota	9 (5)	1 (1)	12 (5)	5 (3)	1 (1)	1 (1)			9	1 (1)	31 (11)	8 (6)	39 (32)
University of Mississippi			7 (3)	1	7 (4)	1 (1)	4 (1)	1	13 (3)	0	31 (11)	3 (1)	34 (32)
University of Nebraska	1	1 (1)	1	0			2	0			4	1 (1)	5 (5)
Rutgers University	2 (2)	1 (1)			1 (1)	0	1	1			4 (3)	2 (1)	6 (6)
St. John's University	7 (2)	1					7	0			14 (2)	1	15 (15)
State University of New York at Buffalo	18 (11)	3 (1)	22 (6)	2 (1)			14 (9)	8 (5)			54 (22)	13 (7)	67 (60)
University of North Carolina	5 (1)	0	5 (2)	1							10 (3)	1	11 (11)
North Dakota State University			2	2 (2)							2	2 (2)	4 (4)
Ohio State University	8 (3)	6 (4)	14 (6)	2 (2)	8 (3)	3 (1)	12 (2)	3 (2)	4	2	46 (14)	16 (9)	62 (53)
University of Cincinnati	3 (1)	1 (1)									3 (1)	1 (1)	4 (4)
▲ Oregon State University			1	0			3	1			4	1	5 (5)
Duquesne University			1 (1)	0							1 (1)	0	1 (1)
Philadelphia College of Pharmacy & Science	4 (3)	0	1 (1)	2 (2)			3	1			8 (4)	3 (2)	11 (11)
Temple University	7 (3)	0	7 (2)	2			3 (1)	0			17 (6)	2	19 (19)
University of Pittsburgh	2	2	4 (2)	1	3 (3)	2 (2)	10 (2)	3	3 (1)	0	22 (8)	8 (2)	30 (30)
University of Rhode Island	2	0	7 (3)	1 (1)	1 (1)	0	6 (1)	0			16 (5)	1 (1)	17 (17)
University of Tennessee	3 (3)	0	3	0	3	2	9	1			18 (3)	3	21 (21)
University of Texas-Austin	4 (1)	2	7 (4)	1	1	0	4 (1)	0			16 (6)	3	19 (19)
University of Utah	4 (4)	1	9 (2)	0			2	0			15 (6)	1	16 (16)
Virginia Commonwealth University	1	1 (1)	10 (4)	0			23 (1)	4*			11, 23*	(5)	1, 4*, 12, 27*
University of Washington	4 (3)	0	5 (1)	0	1	0	3*	0			10, 3*	(4)	0, 10, 3*
Washington State University	2	0					11 (1)	1			13 (1)	1	14 (14)
University of Wisconsin at Madison	7 (3)	1	2	0	1	0	3 (1)	0	1	0	14 (4)	1	15 (15)
Total Doctors	208 (101)	34 (17)	304 (131)	60 (31)	37 (13)	13 (8)	139 (61)	33 (10)	35 (5)	4 (1)	723	144	867
Total Doctors*							26*	4*			26*	4*	30*
Grand total	208	34	304	60	37	13	165	37	35	4	749	148	897

a Pharmacy (Pharm.) totals include: Pharmaceutics, industrial Pharmacy, clinical Pharmacy, history of pharmacy and social studies of Pharmacy.

b Pharmaceutical chemistry (Ph. Chm.) totals include: medicinal chemistry, clinical chemistry, radiopharmacy, radiological health and bionucleonics.

c Pharmacognosy (Phcog.) totals include: molecular and quantum biology and microbiology.

d Pharmacology (Phcol.) totals include: biochemical pharmacology, toxicology, neuropharmacology, psychopharmacology, cardiovascular pharmacology and autonomic pharmacology.

e Pharmacy administration (Ph.Adm.) totals include: hospital pharmacy administration.

f Hospital Pharmacy (Hosptl.) totals include: hospital pharmacy only

*Graduate programs available in the pharmaceutical sciences but offered by departments of the parent university other than its college of pharmacy.

(): 括號數字為外國學生數目

▲: 外國學生資料缺

Table 3. Graduate programs to be offered in 1975-76

Member college or school	Pharm. ^a	Ph.Chm. ^b	Phcog. ^c	Phcol. ^d	Ph.Adm. ^e	Hosptl. ^f	Other
Auburn University + (Alabama)	M	M	M	M	M	M	
University of Arizona+	M,D	M,D	M	M,D	M	M	D (Pharm. Educ.)
University of Arkansas at the Medical Center +	M	M	M	M	M	M	
University of California		D		D*			
University of the Pacific + (California)	M,D	M,D	M,D	M,D	M,D	M,D	
University of Southern California +		M,D		M* ^d	M* ^d		
University of Colorado	M,D	M,D	M,D	M,D	M,D	M	
University of Connecticut+	M,D	M,D	M,D	M,D	M	M	
University of Florida+	M,D	M,D		D*	M	M	
University of Georgia+	M,D	M,D	M,D	M,D	M,D,D*	M,D	
Idaho State University +	M	M	M	M			
University of Illinois +	M,D	M,D	M,D	M,D		M	
Butler University (Indiana)	M	M		M		M	
Purdue University (Indiana)	M,D	M,D	M,D	M,D	M,D	M,D	
University of Iowa+	M,D	M,D	M,D	M* ^d	M,D	M	
University of Kansas	M,D	M,D		M,D		M	
University of Kentucky +	M,D	M,D		M* ^d			
Northeastern Louisiana Univ. +	M,D	M,D	M,D	M,D	M,D	M	
University of Maryland +	M,D	M,D	M,D	M,D		M	
Massachusetts College of Pharmacy +	M,D	M,D	M,D	M,D	M	M	M (Behavioral Sci.)
Northeastern University (Massachusetts)		M,D		M		M	

University of Michigan	M, D	M, D	M, D	M* D*	M* D*	M	
Wayne State University (Michigan)	M, D	M, D	M, D	M, D	M, D	M	
University of Minnesota	M, D	M, D	M, D		M, D	M	
University of Mississippi+	M, D	M, D	M, D	M, D	M, D	M	
University of Missouri at Kansas City	M, D	M, D		M, D			
University of Montana +	M	M	M	M	M*		
University of Nebraska	M, D*		M, D*	M, D*			
Rutgers University (New Jersey)	M, D	M, D	M, D	M, D			
Columbia University (New York)	M, D	M, D		M, D	M		
Brooklyn College of Pharmacy (New York)					M	M	M (Drug Information)
St. John's University (New York)	M, D	M, D		M, D	M	M	M (Aerosol Science & Technology)
State University of New York at Buffalo	M, D	M, D		M, D			
University of North Carolina+	M, D	M, D		M*, D*		M	
North Dakota State University	M, D	M, D	M, D	M, D	M, D	M	
Ohio State University	M, D	M, D	M, D	M, D	M, D	M	
University of Cincinnati (Ohio)	M, D	M	M	D	M		D (Biopharmaceutics)

Table 4. Geographical distribution of full-time graduate students

School/college	From own state	From other state	From Canada	From foreign countries	T
Auburn University	9	1	0	9	19
University of Arizona	3	2	0	0	5
University of California	31	4	1	20	56
University of the Pacific	22	2	0	4	28
University of Southern California	18	1	0	2	21
University of Colorado	7	1	0	3	11
University of Connecticut	15	21	0	14	50
University of Florida	24	4	0	1	29
University of Georgia	10	8	0	10	28
Idaho State University	3	2	0	2	7

University of Illinois	11	1	0	10	22
Purdue University	71	50	0	20	141
University of Iowa	12	10	0	5	27
University of Kansas	13	26	0	31	70
University of Kentucky	2	7	0	4	13
Northeast Louisiana University	5	2	0	2	9
University of Maryland	18	9	0	6	33
Massachusetts College of Pharmacy	12	2	0	20	34
Northeastern University	5	0	0	2	7
University of Michigan	10	23	0	25	58
Wayne State University	6	3	0	10	19
University of Minnesota	19	15	0	23	57
University of Mississippi	3	42	0	20	65
University of Montana	0	0	0	3	3
University of Nebraska	10	1	0	4	15
Rutgers University	6	0	0	6	12
Columbia University	0	1	0	1	2
Brooklyn College of Pharmacy	6	2	0	6	14
St. John's University	14	2	0	5	21
State University of New York at Buffalo	27	10	2	31	70
University of North Carolina	13	9	0	3	25
North Dakota State University	14	8	0	4	26
Ohio State University	23	34	2	25	84
University of Cincinnati	2	0	0	3	5
University of Toledo	1	0	0	1	2
University of Oklahoma	14	1	0	6	21
Oregon State University	4	6	0	0	10
Duquesne University	9	1	0	7	17
Philadelphia College of Pharmacy and Science	11	5	0	17	33
Temple university	18	8	1	7	34
University of Pittsburgh	18	8	0	17	43
University of Rhode Island	12	20	0	14	46
University of South Carolina	9	1	0	2	12
University of Tennessee	13	7	0	3	23
University of Houston	5	0	0	3	8
University of Texas at Austin	15	0	0	10	25
University of Utah	2	8	0	6	16
Virginia Commonwealth University	14	20	0	6	40
University of Washington	14	11	1	5	31
Washington State University	8	7	0	2	17