

EDWARD LEETE

Biographical Sketch

Personal Data:
Born: April 18, 1928, Leeds, England
Nationality: Became U. S. citizen, 1961
Marital Status: Married, 7 children

Address: Department of Chemistry
University of Minnesota
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Education:

University of Leeds, 1945-50
1948: B.Sc., Colour Chemistry and Dyeing. 1st class honours.
1950: Ph.D., with William Bradley, Colour Chemistry.
Thesis title: Mechanism of the formation of indanthrone from 2-aminoanthraquinone.
National Research Council Laboratories, Ottawa, Canada, Postdoctoral Fellow with Leo Marion,
January, 1951 - September, 1954. Chemistry of natural products, especially their biosynthesis.

Scientific Employment:

Instructor, Department of Chemistry, University of California at Los Angeles, 1954-56.
Assistant Professor, University of California at Los Angeles, 1956-58.
Assistant Professor, Department of Chemistry, University of Minnesota, 1958-60.
Associate Professor, University of Minnesota, 1960-63.
Professor of Chemistry, University of Minnesota, 1963 - present.

Honors:

Leblanc Medal -1948. (Awarded to the top student in the College of Technology, University of Leeds.)
Awarded a Goldsmiths Company Traveling Scholarship, with Leo Marion, at the National Research Council, Ottawa, Canada, 1951-52, (one of ten awarded in all areas of knowledge in 1950).
Awarded a National Research Council of Canada Postdoctoral Fellowship, 1952-54.
Alfred P. Sloan Foundation Fellow, 1962-65.
Guggenheim Foundation Fellow, University of Oxford, England, March-September, 1965.
Awarded D. Sc. degree from the University of Leeds, 1965, (for accomplishments in research).
Recipient of College of Letters and Arts Distinguished Teaching Award, University of Minnesota, 1976.
Appointed to the Editorial Board of *Phytochemistry*, 1976 - present.
Appointed to the Editorial Board of *Journal of Natural Products*, 1983 - present.
Elected a Fellow of the American Association for the Advancement of Science, 1989.
Minnesota Award, 1990. For distinction in research and teaching in the last 40 years. (Awarded by the Minnesota Section of the American Chemical Society every three years)
First Phytochemistry Prize and Medal, 1990. An international award sponsored by Pergamon Press for distinguished contributions to our knowledge of phytochemistry.
Visiting Professor at University of Kyoto, Faculty of Agriculture, May - August, 1990.

NIH Consultant: Member of the Medicinal Chemistry Study Section 1962-1965.

Society Memberships:

1947, Fellow of the Royal Society of Chemistry, London, UK
1951, American Chemical Society
1957, Phi Lambda Upsilon
1957, Sigma Xi
1965, The American Association for the Advancement of Science
1970, Phytochemical Society of North America
1979, American Society of Pharmacognosy
1979, Gesellschaft für Arzneipflanzenforschung (Germany).

Graduate Students Supervised by Edward Leete

<u>Name</u>	<u>Degree (Year)</u>	<u>Title of Thesis</u>
Aggarwal, Naranjan D.	M. S., 1971	The biosynthesis of gramine.
Bell, Virginia M.	M. S., 1958	The metabolism of nicotine in <i>Nicotiana tabacum</i> .
Bodem, George B.	M. S., 1972	Aberrant metabolism in higher plants. Formation of 5-fluoronicotine from 5-fluoronicotinic acid in <i>Nicotiana tabacum</i> .
	Ph. D., 1976	Biosynthesis of orchidaceae alkaloids: Shihunine and pierardine.
Braunstein, Joseph D.	Ph. D., 1971	Part A. The tropic acid rearrangement in the biosynthesis of scopolamine. Part B: Origin of the two carbon unit in anhalonidine.
Brooks, Ann Marie	M. S., 1989	Studies involving the alkaloids of <i>Dendrobium pierardii</i> .
Carel, Barbara B.	M. S., 1978	Biosynthesis of alkaloids in <i>Conium maculatum</i> .
Carver, Richard A.	Ph. D., 1978	The synthesis and biosynthesis of pinidine.
Catka, Tony E.	Ph. D., 1978	I. The synthesis of 1,2,3,5,6,10b-hexahydro[2,3-g]indolizidine. A bridged nicotine. II. The metabolism of nicotine in <i>Nicotiana glutinosa</i> .
Chang, Tzu-Chen	M. S., 1960	Studies related to the biogenesis of gramine.
Chedekel, Miles R.	Ph. D., 1973	I. Aberrant biosynthetic studies in <i>Nicotiana tabacum</i> and <i>Nicotiana glauca</i> . II. Synthetic studies with the tobacco alkaloids. 1,4-Additions to acyl carbanion equivalents.
Chen, Felicia Y.-H.	M. S., 1963	The oxidation of indoles.
Davis, George E.	M. S., 1970	The biosynthesis of azetidine-2-carboxylic acid.
Delvigs, Peter	Ph. D., 1963	Synthesis and reactions of linear polynuclear phenazines.
Dohman, George	M. S., 1983	Chemistry of the pyrethrin insecticides.
Durst, H. Dupont	Ph. D., 1970	I. Synthesis of geraniol 7- ¹⁴ C. II. Reductive aminations using lithium and sodium cyanoborohydride. III. Biogenesis of lophocerine.
Ekechukwu, Oluchukwu	M. S., 1960	The synthesis of azines from 2-aminoanthraquinone. The formation of linear indantrones.
Friedman, Alan R.	Ph. D., 1963	The biosynthesis of the pyridine ring of anabasine.
Gilbertson, Terry J.	Ph. D., 1967	The biosynthesis of the pyrrolidine ring of nicotine.
Gower, Bob G.	Ph. D., 1963	Synthesis and reactions of 3-aminomethylindoles: Biosynthesis of gramine and 5-fluorogramine.
Henry, David W.	Ph. D., 1958	The biogenesis of gramine.
Hoekstra, Philip M.	M. S., 1975	Reactions of Δ^1 -pyrrolinium salts.
Hutchinson, C. Richard	Ph. D., 1970	Biosynthetic studies in <i>Convalaria majalis</i> , <i>Nicotiana tabacum</i> and <i>Tulipa gesneriana</i> .
Isaacson, Henry V.	Ph. D., 1970	The mechanism of pyrazole formation from pyrrolidines.
Juneau, Kathleen Nelson	M. S., 1967	Biosynthesis of pinidine.
Keenan John B.	Ph. D., 1962	Synthetic studies in the pyrrole and indole series.
Kilgore, James L.	Ph. D., 1984	Chemistry and biochemistry of dihydropyridines. Approaches to the synthesis of 3,6-dihydronicotinic acid, a putative biosynthetic precursor of the major tobacco alkaloids.
Kim, Sung Hoon	Ph. D., 1988	Studies on the biosynthesis and biomimetic synthesis of <i>coca</i> alkaloids.
Kirven, Edward P.	Ph. D., 1976	Studies on the biosynthesis of tropic acid and related metabolism in <i>Datura</i> .
Koo, Swee-Hoo	M. S., 1965	I. Biosynthesis of the pomegranate alkaloids. II. Biosynthesis of ibogaine. III. Synthesis of capsaicine.

Krissiep, Karen D. Leitz, Fred M. B. Liu, Yu-Ying	M. S., 1974 Ph. D., 1960 Ph. D., 1972	Metabolism of gramine in barley. Biogenesis of ricinine. Biosynthesis and metabolism of nicotine in the tobacco plant
Landgrebe, Mary E. Louden, Mary C. L. Louters, Lawrence L. Lucast, Donald M. Makky, Abdul-monheim M.	M. S., 1989 M. S., 1962 M. S., 1976 Ph. D., 1976 Ph. D., 1966	Metabolism of tropinone in <i>Datura innoxia</i> . The biosynthesis of tropic acid. The biosynthesis of azetidone-2-carboxylic acid. The biosynthesis of meteloidine. Radioactive nicotine, biosynthesis, toxicity and metabolism.
Manuel, Marissa P.	Ph. D., 1970	I. A. Biosynthesis of <i>N</i> -methyltyramine in barley seedlings: Occurrence of the NIH shift in higher plants. B. Fluoroanalogs of hordenine. II. Synthesis of 5-fluoronicotine and some related 5-fluoro-3-substituted pyridines.
McDonell, James A.	Ph. D., 1980	Biosynthesis of pyrrolidine alkaloids employing carbon-13-nitrogen -15 labels; studies on an unusual example of magnetic NMR equivalence.
McMinn, Dennis G.	Ph. D., 1970	I. The biosynthesis of lycopodine. II. The biosynthesis of the <i>Cinchona</i> alkaloids.
Michelson, Robert H. Minich, Martha L.	Ph. D., 1988 M. S., 1976	Explorations into the biosynthesis of dioscorine. The biosynthesis of the alkaloids of <i>Phalaris arundinacea</i> L.
Moody, John	M. S., 1956	Investigation of the reversibility of the Mannich reaction leading to gramine.
Mueller, Mark E. Murrill, John Brendan (Evelyn) Nelson, Stephen J. Nemeth, Piroshka E. Ni, Roxy RuJien	Ph. D., 1981 Ph. D., 1966 M. S., 1968 M. S., 1962 M. S., 1960 Ph. D., 1962	Studies on the biomimetic synthesis of anatabine. The biosynthesis of morphine and chelidonine. The biosynthesis of meteloidine. Biosynthesis of colchicine and demecolcine. The biogenesis of cannabinol.
Olson, John O.	Ph. D., 1971	I. The synthesis of actinidine. II. Studies on the biosynthesis of cannabinol and cannabidiol in <i>Cannabis sativa</i> .
Ouchi, Glenn	M. S., 1974	Biosynthesis and metabolism of the alkaloids of poison hemlock.
Pawlosky, Robert J.	M. S., 1980	I. Application of ¹³ C-NMR. II. CIDNP as a tool in mechanistic chemistry. III. A short history of stereochemistry.
Porwoll, Joseph P.	Ph. D., 1982	A synthesis of 1-amino-cyclopropane-1-carboxylic acid and its oxidation to ethylene.
Ranbom, Karen C. Siegfried, Kenneth	M. S., 1977 M. S., 1956	Studies concerning the isolation, purification and biosynthesis of Δ -tetrahydrocannabinolic acid by feeding contiguously enriched carbon-13 putative precursors.
Silvestrini, Thomas	M. S., 1976	The metabolism of anatabine in <i>Nicotiana</i> species. A degradation of nicotine to determine radioactivity at the C-2' and C-5' positions.
Weiss, Stephen G. Wemple, James N. Woo, Kyu Whan	M. S., 1968 Ph. D., 1968 M. S., 1971	<i>N</i> -Methyl- Δ^1 -azoniacycloheptene as a potential precursor of aberrant alkaloids in tobacco. The biogenesis of the <i>Lycopodium</i> alkaloids. The biosynthesis of <i>Cinchona</i> alkaloids.
Yeow, Tsch Yu, Ming Li	M. S., 1963 Ph. D., 1982	A study on azetidone-2-carboxylic acid - synthesis and biosynthesis. Biosynthesis of ψ -pelletierine.
Zebowitz, Tom	M. S., 1980	Biosynthetic studies on the tobacco, tropane, pyrrolizidine and orchid alkaloids. Chemistry of the tobacco alkaloids.

Senior Research Coworkers

Postdoctoral fellows, faculty on sabbatical leave, research associates (In parenthesis is indicated where they obtained their higher degrees)

Name	Years with Leete research group	Title of Project
Adityachandhury, Narajan (India)	1964-65	Biosynthesis of ψ -conhydrine and benzylisoquinolines.
Ahmad, Afzal (McMaster, Canada)	1964-65 1968-70	Biosynthesis of the <i>Erythrina</i> alkaloids. Biosynthesis of the tropane alkaloids. Attempts to isolate enzymes responsible for nicotine formation.
Anderson, Charles (Washington)	1964-5	Biosynthesis of <i>Equisetum</i> and <i>Gentiana</i> alkaloids.
Bae, Kihwan (Chungnam, Korea)	1986-87	Biosynthesis of pyrrolizidine alkaloids.
Bellion, Edward (Leeds, UK)	1968-70	Enzymes for tropic acid and nicotine biosynthesis.
Blum, Stanley (Illinois-Urbana)	1960-61	Systematic degradation of the pyridine ring of nicotine.
Bowman, Robin (Belfast, N. Ireland)	1966-68	Indole alkaloids, hordenine biosynthesis.
Coke, James (North Carolina)	1968	Tobacco alkaloids.
Coulardis, Maria (Athens, Greece)	1989-90	Enzymes of <i>Datura innoxia</i> and <i>Erythroxylum coca</i> .
Doskotsch, Raymond (Ohio State)	1964	Attempts to isolate the enzymes of nicotine biosynthesis.
Edgar, John A. (Australia)	1964-65	Biosynthesis of vindoline.
Edwards, Philip (Manchester, UK)	1960-61	Biosynthesis of ajmaline.
Fischer, Allan (Indiana)	1966-68	Enzymes of nicotine formation.
Gear, James (McMaster, Canada)	1962-63	Biosynthesis of the indole alkaloids.
Gear, Shirleen (McMaster, Canada)	1962-63	Biosynthesis of 5-fluorogamine.
Ghosal, Shibnath (Calcutta, India)	1961-62	Biosynthesis of reserpine and ajmaline.
Gregory, Harry (Manchester, UK)	1959-60	Biosynthesis of digitoxin.
Gros, Edwardo G. (Buenos Aires, Argentina)	1962-65	Biosynthesis of the cardiac glycosides and the tobacco alkaloids.
Gros, Elba (Buenos Aires, Argentina)	1962-65	Tissue cultures of tobacco roots.
Knox, John (Australia)	1971	Biosynthesis of geraniol in geraniums studied with $^{14}\text{CO}_2$.
Kompis, Ivan (Bratislava, Czech.)	1963-64	Biosynthesis of vindoline.
Kompisova, Anna (Bratislava, Czech.)	1964	Biosynthesis of 5-fluorogamine.
Kowanko, Nickolas (Perth, Australia)	1962-64	Biosynthesis of quinine.
(Moorhead State, Minnesota)	1974-75	Biosynthesis of tropic acid.
McGaw, Brian (Leicester, UK)	1978-79	Biosynthesis of tiglic acid and the tropane alkaloids.
Morris, Gerald (Galway, Ireland)	1981-83	Biosynthesis of ethylene.
Mulchandani, Neward (Bombay, India)	1964-65	Biosynthesis of argemonine.
O'Donovan, Donal (Cork, Ireland)	1961-62	Biosynthesis of gamine.
Olson, John (Canada)	1986-87	Biomimetic synthesis of hemlock alkaloids.
Rana, Jatinder (Birmingham, UK)	1983-85	Biosynthesis of riddelline.
Rao, Prakash (India)	1982-84	Bioynthesis of ethylene.
Slattery, Sheila (St. Mary's, Indiana)	1973-78	Biosynthesis of the tobacco alkaloids. Synthesis of caulerpin.
Ueda, Shinichi (Kyoto, Japan)	1965-66	Biosynthesis of vindoline.
Yamasaki, Mikio (Tokyo, Japan)	1962-64	Biosynthesis of ibogaine.