Thomas J. Leonard

Professor

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EDUCATION:

	Degree	Year
Clark University, Worcester, MA	B.A.	1962
Indiana University, Bloomington, IN	Ph.D.	1967
Harvard University, Cambridge, MA Laboratory of Professor J.R. Raper (Fungal Genetics)	Postdoctoral Fellow	1967-68

HONORS AND AWARDS:

1958 – 1959	Jonas Clark Scholarship, Clark University
1959 – 1962	Travelli Scholar, Clark University
1963	Floyd Fellowship, Indiana University
1964 – 1967	PHS Training Grant Fellow, Indiana University
1967 – 1968	NIH Postdoctoral Fellowship Awardee, Harvard University (Fungal Genetics)
1982 – 1983	NIH-CNRS French Exchange Fellowship, University of Paris-Orsay (Fungal Genetics Institute)
1987	Meritorious Service Award (Wisconsin Association of Educators for the Gifted and Talented)
1988	Advisory Professorship of Heilongjian University, Harbin, China
1988	Chancellor's Distinguished Teaching Award, University of Wisconsin-Madison
1989	The Excellence in Teaching Award, Agricultural & Life Sciences, University of Wisconsin-Madison
1992	Selected Among the Best Professors at the University of Wisconsin (Wisconsin Student Association)
1992	Teaching Excellence Award (UW Agricultural & Life Sciences, Genetics Department)
1993	W.H. Weston Award for Teaching Excellence (Mycological Society of America)
1994	Elected to the University of Wisconsin Teaching Academy
1998	Senior Class Outstanding Teaching Award, Clark University
2003	Mary Despina Lekas Professor (First Endowed Professorship in the Biology at Clark University

RESEARCH INTRESTS AND RELEVANT PUBLICATIONS OF NOTE

Somatic recombination in the fungus *Schizophyllum commune*.

Leonard, T.J. 1975. An inherited neoplasm in a fungus. Proc.Nat'l Acad.Sci.USA 72:4626-4630.

Leonard, T.J., S. Dick,S and R. Gaber. 1978. Internuclear genetic transfer in vegetative dikaryons of *Schizophyllum commune*. GeInetics 88:13-26.

Leonard, T.J., R. Gaber, and S. Dick 1978. Internuclear genetic transfer in vegetative dikaryons of *Schizophyllum commune*. II. Direct recovery and analysis of recombinant nuclei. Genetics 89:685-693.

Gaber, R., and Leonard, T.J.1981. Internuclear gene transfer and specific cell differentiation. Nature 291:342-344.

Leonard, T.J. and S. Dick. 1994. Uncontrolled Growth associated with novel recombination in the fungus Schizophyllum. Bioassays 16

Genetic regulation of aflatoxin biosynthesis in the fungus *Aspergillus nidulans*.

Brown, D. W., Yu, J.-H., Kelkar, H. S., Fernandes, M., Nesbitt, T. C., Keller, N. P., Adams, T. H., and Leonard, T. J. (1996). Twenty-five co-regulated transcripts define a sterigmatocystin gene cluster in *Aspergillus nidulans*... Proc. Natl Acad. Sci. USA 93:1418–1422. **Yu, J.-H., Butchko, R. A. E., Fernandes, M., Keller, N. P., Leonard, T. J., and Adams, T.H. (1996).** Conservation of structure and function of the aflatoxin regulatory gene *aflR* from *Aspergillus nidulans* and *A. flavus*. Curr. Genet. 29:549–555.

Studies elucidationg the basic biology of the morel, *Morchella esculenta* life cycle.

Volk, T and Leonard, T.J.1989. Cytology of the life cycle of *Morchella esculenta*. Mycological Research 94:399-406
Volk, T., and Leonard, T.J.1989.Physiological and environmental studies of sclerotiaum formation in Morchella. Applied and Environmental Microbiology 55:3095-3100.
Volk,T and Leonard, T.J. 1989. Experimental studies on the morel. I. Heterokaryon formation between monoascosporous strains of Morchella.
Mycologia 81:523-531.

Studies of induced cell differentiation and development in Schizophyllum commune.

Leonard, TJ. And S. Dick. 1968. Biochemical induction of haploid fruiting bodies in *Schizophyllum commune*. Proc. Nat'l Acad. Sci. (USA) 59:745-751.
Leonard, TJ. and J.R.Raper. 1969. *Schizophyllum commune*: A gene controlling induced haploid fruiting. Science:165:190-192.
Leslie, J.F. **and T.J. Leonard. 1979**. Three independent genetic systems that control initiation of a fungal fruiting body. Molecular and General Genetics. 171:257-260.
Rusmin, S., **and T.J. Leonard. 1975.** Biochemical induction of fruiting in Schizophyllum: Isolation and preliminary purification of an inducing substance from Agaricus bisporus mushroom.m Plant Physiology 61:538-543.
Leonard,T.J. 1971. Phenoloxidase activity and fruiting body formation in *Schizophyllum commune*. J. of Bacteriol. 106:162-167.
Phillips, L.E. and T.J. Leonard. 1976. Extracellular and intracellular phenoloxidase activity during growth and development in *Schizophyllum commune*. Mycologia 68:268-276.

TEACHING EXPERIENCE:

A list of courses follows that I have developed and taught during my academic career; I was the sole lecturer unless otherwise indicated.

Introductory Mycology: Lecture and laboratory course that surveys species from all of the major groups of fungi in terms of anatomy, physiology and evolutionary relationships.
(University of Kentucky)
Advanced Mycology: Lecture and laboratory course on the genetics, and physiology of economically important species including plant and animal pathogens, and fungi used as model research systems.
(University of Kentucky)
Fungal Genetics: Graduate level lecture and laboratory course on genetics systems in fungi.
(University of Kentucky)
Fungal Physiology: A graduate level lecture series dealing with basic physiology of filamentous fungi.
(University of Wisconsin-Madison)
Experimental Mycology: Lecture and laboratory course designed to give students training in cultivating and manipulating fungi commonly used in industry, and other popular species used in basic research. (University of Wisconsin-Madison)

Yeasts, Molds and Actinomycetes: Lecture and laboratory course designed to give students experience with industrially important filamentous fungi. This course was designed by the late Kenneth Raper; I taught half the course. (University of Wisconsin-Madison)
General Bacteriology: An introductory lecture and laboratory course that surveys the various groups of bacteria, covering their basic structure, physiology, genetics and ecology. Viruses and bacteriophage were also studied. (University of Wisconsin Madison)
Genetics 466: An upper level introductory genetics course required of all students majoring in any of the biological sciences who plan to go on to graduate or to medical school.
(University of Wisconsin-Madison)
Biology of Plants: An introduction to plant biology. (Harvard University)
Introductory Biology: Lecturer and course coordinator in Biology 151. I give between lectures depending on involvement of other faculty. I was also responsible for all administrative aspects of the course.
Team-Taught Courses at University of Wisconsin-Madison): I have contributed from 3-15 lectures in the following courses:

Biocore (Biological Diversity)
Genetics of Yeast and Filamentous Fungi
Biology 152 (Second semester of Introductory Biology)

At Clark University I taught the entire courses listed below:

Introduction to Biology 101
Introductory to Biology 102
(Taught the above two freshman courses only for two years)
Microbiology (Bio 109) with a laboratory
Immunology (Bio 250)
Nutrition, Health & Aging (Bio 114)

Since I spent a great deal of time during my career teaching at four universities and received numerous teaching awards, I thought saying something about my teaching philosophy and what makes a good teacher, would be of interest.

TEACHING PHIOLOSOPHY:

What does it take to become a good teacher?

An effective teacher must be thoroughly knowledgeable with his subject matter, eloquent enough in presentation to be interesting to listen to, and keenly sensitive to the individual needs of his students so as to make his material relevant to their lives. Collectively, I believe these attributes command student attention, stimulate interest and facilitate the learning process.

What I tried to accomplish in teaching

Since most of the 20-30 students taking my course in Mycology have had little or no previous experience with fungi beyond the perfunctory introduction in freshman Biology, my first objective is to engender a love and appreciation of the fungi themselves, of the full range of their morphological, physiological and life cycle variety and of the many roles these organisms play in nature.

My second objective is to cultivate an appreciation of fungi as suitable objects of study for a host of ancillary biological projects and to guide interested students toward a particular career goal in which fungi occupy a prominent position.

How various teaching techniques and strategies help accomplish this goal:

First and foremost, I try to show a genuine interest in individuals by learning who they are: each student's name, major, general interests, aspirations and what they hope to get out of my course. Responding to students by name when possible seems to reduce the size and impersonality of the class and makes students more attentive and responsive. I take pictures of all students in my classes and it helps me to help them quite a bit.

Secondly, to facilitate pedagogy, a lecture outline is passed out before each lecture along with any illustrative material that will be used on slides or overheads. Use of the blackboard is the instrument of teaching most favored by students and I accommodate that preference. However, some use of Power Point is necessary in courses like Immunology because of the many complicated diagrams in the text, but I have tried to minimize its use. While it makes lecturing easy for the professor to get large amounts of material across in class, it is very difficult for the student to absorb the vast amount of details and appreciate the significance. The lecture and laboratory sequence are closely correlated. The laboratory is where the students really get interested and is an exceptionally enjoyable experience for both me and the students, especially when they acquire skills that they can walk away with.