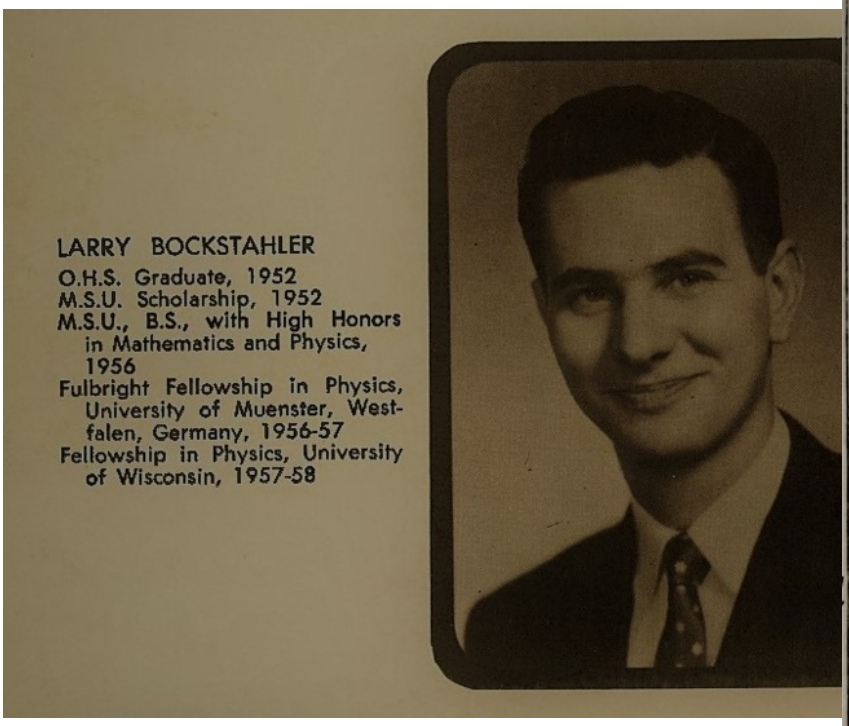
Larry E. Bockstahler class of 1952

Named Distinguished Alumni in 1957



LARRY BOCKSTAHLER

O.H.S. Graduate, 1952
M.S.U. Scholarship, 1952
M.S.U., B.S., with High Honors in Mathematics and Physics, 1956
Fulbright Fellowship in Physics, University of Muenster, Westfalen, Germany, 1956-57
Fellowship in Physics, University of Wisconsin, 1957-58

1957 Okemos High School Yearbook Tomahawk

Lansing State Journal April 16, 1961

Former Local Student Discovers New Virus

Larry E. Bockstahler, son of Mr. and Mrs. Harold W. Bockstahler of Holt, is receiving world-wide acclaim for his part in the discovery of the smallest virus known to mankind.

The discovery was made by Bockstahler, a biochemistry graduate student at the University of Wisconsin, and Prof. Paul J. Kaesberg. They were working on a research project in the university's department of biochemistry, supported by the Wisconsin Alumni Research foundation and the National Institutes of Health.

INFECTS GRASS

The virus is bromegrass mosaic virus, B. M. V. for short, which causes mottling and streaking of the leaves of smooth brome grass, a common prairie grass. The virus can infect grain crops like wheat, rye and corn.

The research team has reported that the virus can be grown easily and in large quantities, is safe to work with, and seems typical, and much like polio or the small cancer-producing viruses.

It has been suggested that analysis of B. M. V. could lead to new knowledge of viruses that cause hundreds of diseases, including cancer, polio, rabies and hoof-and-mouth disease.

Also, the simplicity of the virus and its relatively small amount of hereditary material could lead to new information about heredity.

More than two years of work went into the final scientific "portrait" of the virus drawn by Bockstahler and Dr. Kaesberg.

Bockstahler, now working toward his doctorate in piophysics, recently was granted a fellowship from the National Institute of Health.

He was valedictorian of the

LARRY E. BOCKSTAHLER

1952 class at Okemos high school, where he gained an insight into biology from George Richards, now principal, and developed his interest in mathematics from Mrs. Ruth Kelly, now on the faculty of Lansing Community college.

After being graduated with high honor in physics at Michigan State university in 1956, Bockstahler spent 1957 on a physics fellowship at the University of Munster in Westphalen, Germany. On return-

See NEW VIRUS—Pg. 43

New Virus...

(Concluded from Page 39)

ing to this country, he entered the University of Wisconsin on a university fellowship for graduate study in bio-physics. He has just been granted a fellowship from the National Institute of Health.

He is a member of thee following honor fraternities: Phi Kappa Phi, Phi Eta Sigma, Sigma Pi Sigma, Phi Sigma, Pi Mu Epsilon, Phi Lambda Upsilon and Gamma Alpha.

Nature Magazine of England this spring will publish a scientific article written by Bockstahler on his virus discovery.

Lansing State Journal May 2, 1952

OKEMOS, May 2—Larry Bockstahler and Lois Hays have been named valedictorian and salutatorian respectively of Okemos high school class of 1952.

Bockstahler is the son of Mr. and Mrs. H. W. Bockstahler of Woodcraft rd. He transferred to Okemos in the 10th grade from Indianapolis, Ind., he has maintained a point average of 2.97 of a possible 3 for his four years of high school.

Bockstahler was class treasurer his sophomore year and president of his class for both the junior and senior years. He was a delegate to Boys' Sttae and a student council representative last year. For the past three years he has participated in school talent shows. He has been a member of the golf team for two years.

He has a scholarship to Michigan State college where he will major in physics.

Miss Hays is the daughter of Mr. and Mrs. William Hays of R. 4, Mason. She has maintained a point average of 2.37 out of a possible 3 during her four years at Okemos.

She majored in commercial work and will seek employment in that field after graduation.

She is secretary of the Future Homemakers' club, a member of the Bible club, during her junior year she was class secretary, and this year she was business manager of the school yearbook.

The other students named in the top 10 in a graduating class of 30 are Betty Aldrich, Elizabeth Bobb, Janice Webb, Dana McDonald, Richard Simzak, LeRoy Webb, Clare Vander Muellen, and Bonnie Brumm.

Okemos High Graduate Married in Germany

By ANN MOHR
State Journal Women's Writer

In a delightful, traditional German ceremony, a former local man, Larry Bockstahler, was married to Rotraut Zimmerman of Malente-Grimsmuhlin, Germany, recently.

The marriage was announced here Thursday by the bridegroom's parents, Mr. and Mrs. Harold W. Bockstahler of Holt. The Bockstahlers attended the ceremony while on a three-month European tour, from which they just returned.

The evening before the wedding, a "polterabend" party was given. Guests came to this fete with dishes to be broken against the door on entering. Today this is done in fun but centuries ago the custom was observed to keep "poltergeists" or bad spirits from attending the next day's wedding.

At the party German love songs were sung by a band throughout the evening.

The couple exchanged wedding vows twice the next day—first in the morning in a civil ceremony at the mayor's office and later in a church.

For the civil ceremony, the bride wore a blue suit and carried roses. She selected a waltz-length gown of white silk with a lace overdress and carried a dozen long-stemmed red roses for the church nuptials in the afternoon.

The couple was attended by the bride's brother and sister-in-law, Mr. and Mrs. Reinhard Zimmerman.

Rose petals were strewn in the bridal couple's path and, according to custom, friends carried bouquets of carnations as they formed a circle around the pair during the ceremony.

Others from the states, besides the bridegroom's parents, who attended the wedding included Mrs. Suzanne Underwood of Indianapolis, Ind., cousin of the bridegroom, and Capt. Ronald D. McDonald Jr., son of Gen. and Mrs. Ronald D. McDnoald of Okemos.

Capt. McDonald, stationed currently with the U.S. Army in Nancy, France, and the bridegroom were neighbors in Okemos and classmates at Okemos High School and Michigan State University.

A five-hour dinner following the marriage was held at the Schloss Dieksee, a castle on the Dieksee, a lake. The bride's mother, Mrs. Werner Zimmerman, was hostess.

MRS. LARRY BOCKSTAHLER

Then, while the wedding party continued, into the evening and all next day, the newlyweds left for Athens, Greece, on their honeymoon.

At the reception, songs were sung by the former Miss Zimmerman and piano selections were played by the bridegroom.

Mr. Bockstahler, valedictorian of his Okemos High School graduating class in 1952, received his B.S. degree from Michigan State University. He received the M.S. and Ph.D. degrees from the University of Wisconsin.

The couple now lives in Tubingen, Germany, where the bridegroom has a two-year Natinoal Institutes of Health fellowship for post doctoral study at the Max Planck Institute.

His bride will continue her study of music at the University of Tubingen.

Lansing State Journal November 12, 1965

Wisconsin State Journal May 6, 1960

At the University

Honorary Chemistry Society Adds 35 New U.W. Members

Thirty-five new members of the honorary chemical society Phi Lambda Upsilon have been initiated into the University of Wisconsin chapter.

The 61-year-old society invites to membership outstanding faculty members, graduate students, juniors and seniors in the fields of chemistry, pharmaceutical chemistry, biochemistry, and chemical engineering.

Three seniors with the highest grade point averages were honored. They were Mrs. Joan Appleman, 2110 University ave., in chemistry; Palmer W. Taylor Jr., Stevens Point, in pharmacy; and Gerald F. Tice, 27 Sherman terrace, in chemical engineering.

Officers Named

The new president of the chapter is Larry Bockstahler of Holt, Mich. Other officers elected are: vice-president Paul H. Shapiro, Marshfield; secretary Leonard C. Afremow, Chicago; treasurer Albert Fry, Philadelphia; and Robert Stratton, Alturas, Calif., alumni secretary.

New members from the chemistry department are:

Undergraduates Allan C. Button, Lake Geneva; David C. Lewis, Manitowoc; graduate students Leonard C. Afremow, Chicago; Eugene R. Corey, West Lynn, Ore.; John Davison, Elmhurst, Ill.; Carl R. Gerber, Cleveland, Ohio; Panos Kokoropoulos of Greece; Peter Maldonado, Copiague, N. Y.; Robert S. Moore, 1251 Rutledge st.; Hans W. Osterhoudt, Durango, Colo.; Daniel S. Polcyn, Montello; Gerhard C. Rollefson, Eagle Heights; Robert A. Stratton, Alturas, Calif.; Thomas N. Tischer, Milwaukee; David S. Wulfram, Charlevoix, Mich.; and faculty member, Dr. Robert C. West, Jr., 5117 Minocqua Crescent, Madison.

Other Members

School of Pharmacy: Undergraduates Robert J. Adamski, 3 W. Gilman st.; Charles F. Barfknecht, Lake Mills; Vernon A. Jones, Chicago; William J. Nye, 118 W. Broadway; Palmer W. Taylor, Jr., Stevens Point; graduate students; Robert D. Irsay of Israel; Paul H. Shapiro, Marshfield; and faculty members Dr. Joseph G. Cannon and Dr. Edward E. Smissman.

Chemical engineering department: Undergraduates Louis M. Bruger, Ladysmith; John D. Huppler, Neenah; William L. Schuette, Sheboygan; Gerald F. Tice, 27 Sherman terrace, Madison; graduate students Chieh Chu of Taiwan, China and Francisco S. Hing, of the Philippines.

Biochemistry department: Graduate students William J. Bye, Appleton; Marvin L. Ogilvie, Richard, Mich.; Lee C. Olson, Flandreau, S. D. and James J. Vogel, Keenesburg, Colo.

award for being the senior student showing the most clinical promise. He was class president in his junior year, and after graduation expects to intern at Massachusetts General hospital, Boston, Mass.

Also honored was John R. Bentson of Viroqua. He received the Roch award as the student who best exemplifies the ideals of the modern physician. Bentson is a medical school junior.

Editor Interviews

Gov. Gaylord A. Nelson and Philip Kuehn, candidate for the GOP gubernatorial nomination, will be interviewed by editors attending the Journalism Institutes here Friday and Saturday.

Prof. Harold Nelson of the university's journalism faculty said that GOP gubernatorial candidate Jack Olson was invited but could not attend.

Kuehn will hold his press conference at 8:45 a.m. Friday, and Gov. Nelson will hold his at 9:30 a.m. Saturday.

Nearly 150 persons in advertising, circulation, and editorial work are expected to attend the seminars.

To Plan Program

Participants in the Wisconsin Improvement Program will meet Friday through Sunday at Oakton Manor in Pewaukee to inventory this year's work and plan for the future.

The $625,000 program, financed by Ford Foundation funds, is sponsored by the school of education, the foundation, and nine school systems, including Madison.

Brown County Democrat Wednesday December 23, 1961

Gallery to host family concert

A concert will be presented on Sunday, December 27 from 3 to 4 p.m. at the Brown County Art Guild by Dr. Larry Bockstahler, pianist; his wife, Rotraut, soprano; and their daughter, Katrin, violinist.

The program will consist of three German arias by Handel; a violin concerto, first movement, by Hayden; and piano solos by Albeniz and Granadas.

Bockstahler, a biochemist division chief in the US Human Health and Services Department, is the son of Evangeline and Harold Bockstahler of Brown County.

His avocation is playing the piano, harpsichord and organ.

He studied with Dr. Joseph Evans of Michigan State University and Maria Stoesser, concert pianist in Washington, D.C.

Mrs. Bockstahler studied voice in Germany and is a member of the Paul Hill Chorale in Washington.

Miss Bockstahler, age 15, is with the Montgomery County Youth Orchestra in Maryland.

Larry E. Bockstahler's partial research while affiliated with U.S. Food and Drug Administration and other places

Induction of oncogenic viruses by light

Article

Jan 2008

- Photochemistry and Photobiology
- Contributor

Neuropathology and Virology of HIV Associated Dementia

Article

- Sep 1996
- Reviews in Medical Virology
- Contributor

PCR method for determining ratios of HIV proviral DNA to cellular genomic DNA in brain tissue of HIV-infected patients

Article

- Dec 1995
- Journal of Virological Methods
- Contributor
- A PCR method was developed to compare HIV-1 DNA loads in brain tissue samples. The method determines the ratio of the amplified product of an HIV DNA sequence to that of a host cellular DNA sequence using standard DNAs as reference. The standards include DNA from a line of human cells that harbor one HIV-1 provirus per cellular genome, and DNA from non-infected human cells. The standard DNAs were mixed in varying proportions and used to establish conditions of amplification under which the ratios of their PCR-amplified products corresponded with the ratios of the amounts of the DNAs themselves. The method was evaluated using known mixtures of the standard DNAs. Using the conditions thus obtained, ratios of HIV proviral DNA to cellular genomic DNA were obtained for tissue DNA samples taken from several different locations within the brain of two deceased HIV-infected patients. Results showed that HIV DNA was non-uniformly distributed within each brain (10-250 per 10(3) cellular genomes); the highest ratios were found in the hippocampus for each patient, independent of postmortem neuropathological findings. The criteria for quantitative PCR have general applicability to comparative studies of any proviral DNA loads in different tissue samples.

Distribution of HIV genomic DNA in brains of AIDS patients

Article

- Feb 1995
- Clinical and Diagnostic Virology
- Contributor
- Data concerning the distribution of HIV in the brains of AIDS patients at different stages of viral infection might contribute towards: (1) understanding the route(s) of HIV entry into the brain and virus dissemination within the brain and (2) establishing a possible correlation between the extent of CNS damage and the distribution of virus in AIDS brains. To determine the distribution of HIV-1

genomic DNA within the brains of three deceased AIDS patients by polymerase chain reaction (PCR). The brains of three deceased AIDS patients were examined. Two brains had limited neuropathologic findings (brains I and II), and one brain (brain III) showed primary HIV-specific neuropathologic damage. Tissues were taken from different locations within each brain, and high molecular weight DNA isolated from the tissues was assessed for HIV-1 genomic DNA by PCR. HIV-1 genomic DNA was found in all three brains, but the amount was low: order of magnitude of 1 viral genome per 1,000 cells. Multiple PCR analyses of DNA from brain I showed that the viral genomic DNA in this brain was non-uniformly distributed; only samples taken from the brainstem were clearly positive for HIV-1. HIV-1 genomic DNA in brain II was found in portions of the lower and upper hemispheres. All but one of the brain III samples were clearly positive for HIV-1, and they had been taken from locations spread throughout this brain. Our results suggest that in early or latent stages of HIV-infection of the brain, viral genomic DNA is localized at restricted regions. At later stages this DNA is distributed more uniformly throughout the brain. Our data are compatible with the concept of rare infection events followed by viral spreading within brain tissues.

Overview of international PCR standardization efforts

Article

- May 1994
- PCR methods and applications

- Author

IXth International Conference on AIDS in affiliation with the IVth STD World Congress

Article

- Jan 1994
- Clinical and Diagnostic Virology

Contributor

Detection of Junin virus by the polymerase chain reaction

Article

- Oct 1992
- Journal of Virological Methods

Contributor

Argentine hemorrhagic fever is an often fatal human disease caused by Junin virus, an RNA-containing virus and member of the Arenavirus family. This virus was detected in vitro by the polymerase chain reaction (PCR) procedure. A pair of Junin virus-specific PCR DNA oligonucleotide primers and an oligonucleotide probe were designed from a known portion of the viral RNA sequence. RNA was isolated from Junin virus-infected monkey kidney cells and used to produce complementary DNA (cDNA) by reverse transcription. A DNA segment, 151 +/- 24 bp long, was amplified from this cDNA and characterized by agarose gel electrophoresis and Southern blot hybridization with the Junin virus-specific DNA probe. Sensitivity experiments showed that Junin virus could be detected with nanogram quantities of RNA isolated from virus-infected cells. The rapid and sensitive assay described here may contribute towards the development of a procedure for the early diagnosis of Argentine hemorrhagic fever.

Inhibition of Herpes virus plaquing capacity in human diploid fibroblasts treated with gilvocarcin V plus near UV radiation

Article

- May 1990
- Photochemistry and Photobiology

Contributor

The capacity of human fibroblasts to support plaque formation by Herpes simplex virus following treatment of the cells with gilvocarcin V, a polyaromatic C-glycoside, plus near ultraviolet radiation (UVA, 320-400 nm) was examined. Gilvocarcin V, plus UVA radiation, effectively inhibited host cell capacity at concentrations five orders of magnitude lower than that of 8-methyoxypsoralen required for capacity inhibition at similar levels of UVA radiation. This result extends the observation of unusual biological potency of UVA-activated gilvocarcins from bacterial cells to human cells.

Virus Leakage Through Natural Membrane Condoms
Article

- Apr 1990
- Sex Transm Dis

Contributor

The authors determined virus leakage from condoms made from processed sheep caecum using two viral probes simultaneously. They poured a mixture of two viruses, the bacteriophage, phi X174 (4 X 10(7) pfu/ml), and the human pathogen, herpes simplex virus (about 1 X 10(6) pfu/ml), in a buffered solution into condoms, which were suspended into beakers also containing buffered solution. The authors then assayed aliquots from the beakers to measure the extent of virus leakage from the condoms. With one brand of condom, 10 out of 24 samples leaked small amounts of phi X174; with the other brand of condom, 13 out of 24 samples gave similar leakage. The extent of leakage varied over two orders of magnitude from condom to condom within each brand. Of the 23 condoms that leaked the smaller virus, phi X174 (27 nm in diameter), only two also leaked the larger herpesvirus (120-150 nm in diameter). These data demonstrate that (1) large and small viruses can leak from natural membrane condoms; (2) there is considerable variation from condom to condom in allowing leakage of the viruses; and (3) leakage of a small virus does not necessarily indicate that a larger virus will leak from that particular condom. The authors explain some inconsistencies in the published literature.

Further evidence that ultraviolet radiation-enhanced reactivation of simian virus 40 in monkey kidney cells is not accompanied by mutagenesis
Article

- Dec 1982
- Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis

Contributor

Can simian virus 40 (SV40) be used to detect mutagenic DNA repair in cultured mammalian cells? The published evidence from different laboratories are in direct conflict. In order to decide between the conflicting evidence, we conducted experiments in two separate laboratories using experimental protocols similar to those previously used to investigate mutagenic repair with viral probes. Mutagenesis in SV40 virus stocks obtained by infecting ultraviolet (UV)-irradiated or unirradiated CV-1 monkey kidney cells with UV-irradiated or unirradiated temperature-sensitive SV40 mutant tsB201 was investigated. The frequency of reversion of the ts mutant to phenotypically wild-type virus was determined by assaying the virus stocks at permissive (33 degrees) and non-permissive (39 degrees) temperatures. These data show that (a) the reversion frequency for unirradiated virus propagated in irradiated cells was more than that in unirradiated cells; (b) irradiated virus gave more reversion than unirradiated virus in unirradiated and irradiated cells; and (c) irradiated virus had a lower reversion frequency in irradiated cells than in unirradiated cells. Reactivation experiments carried out in parallel; with the mutagenesis showed enhanced reactivation in UV-irradiated SV40 in UV-irradiated CV-1 cells. We conclude that enhanced reactivation of UV-irradiated SV40 was not mutagenic in monkey kidney cells.

Mutagenic virus replication in human tumor cells

Article

- Nov 1982
- Cancer Letters

Contributor

Herpes simplex virus was grown in different lines of human tumor and normal cells. The progeny virus was assayed for resistance to iododeoxycytidine, an indicator of a forward mutation in the virus genome. Virus grown in cells from 4 of 5 tumor lines demonstrated greater fractions mutated to iododeoxycytidine resistance than did virus grown in 7 normal human skin cell lines. The data indicate that some lines of human tumor cells modify the herpesvirus replication process, making it more mutagenic. In 2 cases of osteosarcoma patients, normal skin fibroblasts of the patients yielded normal levels of mutagenesis, while their tumor cells gave enhanced mutagenesis.

Action spectrum for the in vitro induction of simian virus 40 by ultraviolet radiation

Article

- Sep 1982
- Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis
- Contributor

A line of simian virus 40-transformed hamster kidney cells was exposed to ultraviolet radiation at eleven different wavelengths in the region 238-302 nm. An action spectrum derived from the resulting exposure-response curves for the induction of simian virus 40 from these cells exhibits a broad peak in the region 260-270 nm suggesting DNA as the major chromophore for this response. This conclusion is consistent with results obtained by other investigators who have noted viral induction by a number of DNA-damaging agents.

Tumor virus induction and host cell capacity inactivation: Possible in vitro tests for photosensitizing chemicals

Article

- Aug 1982
- JNCI Journal of the National Cancer Institute
- Contributor
- The responses of two in vitro mammalian virus-host cell systems to the photosensitizing chemicals proflavine sulfate and 8-methoxypsoralen (8-MOP) in the presence of light are described. Infectious simian virus 40 (SV40) could be induced from SV40-transformed hamster cells by treatment with proflavine plus visible light or 8-MOP plus near UV radiation. The same photosensitizing treatments inactivated the capacity of monkey cells to support the growth of herpes simplex virus. SV40 induction and inactivation of host cell capacity for herpesvirus growth might be useful as screening systems for testing the photosensitizing potential of chemicals. Advantages and disadvantages associated with each system are discussed.

Induction and Enhanced Reactivation of Mammalian Viruses by Light

Article

- Feb 1981
- Progress in Nucleic Acid Research and Molecular Biology

Author

The chapter discusses the certain studies that concern the induction and enhanced reactivation of DNA-containing mammalian viruses by light. The chapter also discusses the enhanced reactivation and induction of mammalian viruses because (a) they represent potential mammalian “SOS” functions, (b) they may be associated with mammalian cell oncogenic transformation; and (c) to use viruses as tools to study phenomena related to DNA repair. Response curves were obtained by determining induced SV40 infectivity for different values of light exposure and dye concentration. The induction was clearly a function of both these parameters, which gave partial justification for calling the effect a photodynamic induction. The maximum levels of induction found for each response curve were similar in amount and represented about a thousandfold increase above spontaneous background levels observed with untreated cells. The results suggest that photodynamic treatment also reduces the capacity of the cells to support the growth of induced virus. The ultraviolet-enhanced reactivation of herpes simplex virus in host monkey kidney cells is described.

Yearly review: induction of oncogenic viruses by light

Article

- Jan 1980
- Photochemistry and Photobiology

Contributor

Photodynamic induction of an oncogenic virus in vitro

Article

- Feb 1979
- Biophysical Journal

Contributor

Infectious simian virus 40 (SV40) was induced from SV40-transformed hamster kidney cells by treatment with proflavine and visible fluorescent light. The optimum levels of SV40 induced were about three orders of magnitude above spontaneous background levels observed with untreated cells. No virus induction above background levels was found by treatment of cells with either proflavine or light alone.