
CURRICULUM VITAE

R.W. TREWYN, PH.D.

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110 (006) Anderson Hall
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MILITARY SERVICE: U.S. Army Infantry, 1968-69
RANK ATTAINED: Staff Sergeant, E-6
FOREIGN DUTY: Vietnam; WIA

EDUCATION: Oregon State University, Corvallis, OR; Ph.D., 1974
[Major: Microbial Physiology; Minors: Biochemistry and Genetics]
University of Wisconsin–Whitewater, Whitewater, WI; B.S., Magna cum Laude, 1970
[Major: Biology; Minor: Chemistry]
University of Hawaii, Honolulu, HI; 1965-67
[Major: Marine Biology ⇔ Zoology; Minor: Chemistry]
University of Wisconsin–Whitewater, Whitewater, WI; 1964-65
[Major: Business ⇔ Biology; Minor: Chemistry]
Rockford School of Business, Rockford, IL; 1961-63
[Graduated in Accounting]

PROFESSIONAL EXPERIENCE:

National Bio and Agro-defense Facility (NBAF) Liaison, Office of the President,
Kansas State University, 2014-present — *NBAF activities, pages 17-22*
Vice President for Research, Kansas State University, 2007-14
Vice Provost for Research and Dean of the Graduate School,
Kansas State University, 1998-2007
President, Kansas State University Research Foundation, 1995-2011
Professor, Division of Biology, Kansas State University, 1994-present
Associate Vice Provost for Research, Kansas State University, 1994-98
Professor, Department of Medical Biochemistry, Ohio State University, 1988-94
Director, Ohio State Biochemistry (Interdisciplinary Graduate) Program, 1989-91; 1993-94
Associate Professor, Department of Medical Biochemistry, Ohio State University, 1983-88
Director, Tissue/Tumor Procurement Service, Comprehensive Cancer Center,
Ohio State University, 1980-92
Assistant Professor, Department of Physiological Chemistry, Ohio State University, 1978-83
Instructor, Department of Biochemistry, Biophysics, and Genetics,
University of Colorado Health Sciences Center, 1977-78
Postdoctoral Research Associate, Departments of Surgery, and Biochemistry, Biophysics,
and Genetics, University of Colorado Health Sciences Center, 1974-77

ADDITIONAL PROFESSIONAL EXPERIENCE:

Biothreat Team Member, Kansas Intelligence Fusion Center, Topeka, KS, 2011-present
Security Clearance: TS/SCI [provide bio/agrodefense risk analyses]
Consultant, Institute for Physical Sciences, McLean, VA, 2008-2015
Security Clearance: TS/SCI [provided assessments of biological threats to the U.S.]
Commissioner [judicial appointment], Franklin County Veterans Service Commission, OH
[provided emergency relief to veterans in excess of \$1,000,000 annually], 1992-94
Scientific Consultant, Research Advisory Board, Jarrow-Lloyd Pharmaceuticals, Inc.,
Columbus, OH, 1989-93
Scientific Consultant, Board of Directors, Pharmaceutical and Toxicological Research
Institute, Ohio State University, 1984-86
Accountant, Hometown, Inc., Milwaukee, WI, 1963-64

BOARD OF DIRECTORS/TRUSTEES SERVICE:

Kansas City Area Development Council, Kansas City MO, 2015-present
Colonel Arthur D. Simons Center for the Study of Interagency Cooperation,
Fort Leavenworth, KS, 2010-15
K-State Olathe Innovation Campus Board of Directors, Olathe, KS, 2009-14
K-State Diagnostic and Analytical Services Board of Directors, Manhattan, KS, 2007-14
Kansas Technology Enterprise Corporation Board of Directors, Topeka, KS, 2006-09
BioKansas Board of Directors, Lenexa, KS, 2004-08
Kansas State University Institute for Commercialization Board of Directors, 1998-present
Chairman of Board, 2008-present
Previously named the Mid-American Commercialization Center, 1995-2004; and
the National Institute for Strategic Technology Acquisition and Commercialization,
2004-11.
Kansas State University Research Foundation Board of Directors, 1995-2014
Chairman of the Board, 2011-14
Center for the Study of Veterans in Society Co-Founder and Trustee, Hamilton, OH
[a not-for-profit, 501(c)(3) research organization], 1992-2010
Ohio Cancer Research Associates Board of Trustees, Columbus, OH, 1984-88

PROFESSIONAL SOCIETY MEMBERSHIPS:

The Honor Society of Phi Kappa Phi (elected membership; 2014-2019)
American Association for the Advancement of Science (elected fellow; 2012-2019)
American Association for Cancer Research (elected membership; inactive)
American Society of Biochemistry and Molecular Biology (elected membership; inactive)
Association of University Technology Managers (inactive affiliation)
Council of Graduate Schools (inactive affiliation)
Council on Research Policy and Graduate Education, APLU (inactive affiliation)
Council on Governmental Relations, APLU (inactive affiliation)
Sigma Xi (elected membership; inactive)

FELLOWSHIPS, HONORS, AND AWARDS:

The Honor Society of Phi Kappa Phi, Elected in 2014

Fellow of the American Association for the Advancement of Science, Elected in 2012

Young Investigator Research Award. Eli Lilly and Company, \$12,000, 1980-82

National Cancer Institute Individual Postdoctoral Fellowship, 1975-77

National Defense Education Act Title IV Fellowship, 1970-73

COMPETITIVE EXTRAMURAL SPONSORED PROJECTS:

American Cancer Society (DHP-37E; competitive renewal of DHP-37D). Leukemia cell differentiation: Epigenetic therapeutics. Direct costs of \$48,800, July 1, 1993 to June 30, 1994. Principal Investigator. Claudia J. Morgan, Ph.D., Co-Principal Investigator.

American Cancer Society (DHP-37C/D; competitive renewal of CH-396B). Leukemia cell differentiation: Epigenetic therapeutics. Direct costs of \$190,400, July 1, 1991 to June 30, 1993. Principal Investigator. Claudia J. Morgan, Ph.D., Co-Principal Investigator.

NATO Travel Grant (RG.86/0140). Inosine biosynthesis in tRNA: Role in regulating gene expression. \$10,833. April 1, 1986 to March 31, 1992. Project Coordinator. Henri Grosjean, Ph.D., Laboratoire D'Enzymologie; Centre National de la Recherche Scientifique, Gif-sur-Yvette, France, Co-Principal Investigator.

Environmental Protection Agency (R-814130-01; competitive renewal of R-810714). Promotion of carcinogenesis: Role of aberrant tRNA modification. Direct costs of \$172,914, March 8, 1989 to March 7, 1992. Principal Investigator.

American Cancer Society (CH-396B; competitive renewal of CH-396). Leukemia cell differentiation: Epigenetic therapeutics. Direct costs of \$172,000, July 1, 1989 to June 30, 1991. Principal Investigator.

National Cancer Institute (U01-CA44971-01). Cooperative human tissue network. Direct costs of \$957,857, January 1, 1987 to December 31, 1990. Program Director. A 5-year competitive renewal of this project was funded at Ohio State with Kathryn P. Clausen, M.D., as Principal Investigator.

Jarrow Formulas. Early cancer detection method. Direct costs of \$67,858, February 1, 1989 to May 31, 1990. Co-Principal Investigator; Steven M. D'Ambrosio, Co-Principal Investigator.

Burroughs Wellcome Company. Purine analogue-induced cell differentiation and queuine hypomodification of tRNA. Direct costs of \$9,091, April 1, 1988 to August 31, 1989. Principal Investigator.

American Cancer Society (CH-396). Leukemia cell differentiation: Epigenetic therapeutics. Direct costs of \$160,744, July 1, 1987 to June 30, 1989. Principal Investigator.

Department of Defense (AFOSR-85-0003; competitive renewal of AFOSR-80-0283). Modulating transfer RNA anticodon modifications and biologic responses in human cells. Direct costs of \$281,864, October 15, 1984 to October 14, 1987. Principal Investigator.

Environmental Protection Agency (R-810714). Promotion of carcinogenesis: Role of aberrant tRNA modification. Direct costs of \$200,008, July 1, 1984 to June 30, 1987. Principal Investigator.

American Cancer Society—Ohio Division. tRNA transglycosylase in neoplastic transformation. Direct costs of \$6,000, October 15, 1980 to October 14, 1981. Principal Investigator.

Department of Defense (AFOSR-80-0283). Chemical carcinogen-induced changes in tRNA metabolism in human cells. Direct costs of \$236,480, October 1, 1980 to September 30, 1984. Principal Investigator.

Battelle Memorial Institute. Markers for selective chemotherapeutic testing *in vitro*. Direct costs of \$10,000, August 1, 1979 to July 31, 1980. Principal Investigator.

Milheim Foundation for Cancer Research. Experimental chemotherapy with tumor explants. Direct costs of \$9,085, July 1, 1979 to June 30, 1980. Principal Investigator.

GRADUATE STUDENTS (M.S. DEGREE MAJOR PROFESSOR):

Lani A. Davakis, M.S., 1983

Thesis: Response of Human Cells to Tumor Promoters

Gina M. Siravo-Sagraves, M.S., 1991

Thesis: Synthetic Oligonucleotide Probes for Detecting Human tRNA Isoacceptors Differing in Post-Transcriptional Modification

GRADUATE STUDENTS (PH.D. DEGREE MAJOR PROFESSOR):

Mark S. Elliott, Ph.D., 1983

Dissertation: Biosynthesis of Queuosine and Inosine in the First Position of the Anticodon in Transfer RNA: Implications in Neoplasia

Keith A. Kretz, Ph.D., 1987

Dissertation: Anticodon Modifications of tRNA and Cell Differentiation

Girija Muralidhar, Ph.D., 1988

Dissertation: Changes in Queuine Modification of tRNA Involved in Promotion of Carcinogenesis

Josiah Ochieng, Ph.D., 1988

Dissertation: Transfer RNA Modifications and Phenotypic Expression in Cultured Cells: Implications in Promotion of Carcinogenesis

POSTDOCTORAL TRAINEES:

Bernard T. French, Ph.D., 1986-90

Project: Transfer RNA mediated changes in *c-myc* expression and codon utilization in mammalian cells

Claudia J. Morgan, Ph.D., 1988-90

Project: Altered queuine modification of tRNA in *c-H-ras* transformation

ADDITIONAL RESEARCH TRAINING/MENTORING:

Mary Lidstrom O'Connor, Undergraduate Honors Student, 1972-73

Honors Thesis: A study of methionine-induced growth inhibition in yeast

Debra A. Heldman, Medical Student, 1981-82

Project: Modified nucleosides as markers for leukemia

Diane S. Gibboney, Undergraduate Honors Student, 1986-87

Honors Thesis: Induction of leukemia cell differentiation with hypoxanthine analogs

Anne-Lise Glasser, French Graduate Exchange Student, 1989

Project: Mechanisms of altered gene expression in cultured mammalian cells

OHIO STATE UNIVERSITY TEACHING ASSIGNMENTS:

Advanced Microbial Physiology

September, 1973 to May, 1974

Introduction to Medical Biochemistry

July 14, 1977 to August 23, 1977

Medical Biochemistry Laboratory

September 11, 1977 to December 17, 1977

Medical Biochemistry

October 8, 1979 to November 16, 1979

January 5, 1981 to February 20, 1981

January 4, 1982 to February 19, 1982

February 21, 1983 to April 1, 1983

February 28, 1984 to March 30, 1984

February 25, 1985 to March 29, 1985

February 3, 1986 to March 7, 1986

October 13, 1987 to November 2, 1987
November 3, 1988 to December 10, 1988
February 25, 1993 to March 11, 1993
March 11, 1994 to April 29, 1994
Biochemistry Program Research Colloquium
September 20, 1989 to December 1, 1989
September 19, 1990 to November 30, 1990
Biochemistry Program Student Seminar
January 3, 1990 to June 1, 1990
Biotechnology 1990, Celina High School
October 17, 1990
Neurochemistry 825
February 18, 1993 to March 18, 1993

UNIVERSITY/NON-UNIVERSITY COMMITTEE SERVICE:

Medical Biochemistry Graduate Studies Committee, 1979-89
Committee Chair, 1982-89
University Hazardous Waste Disposal Committee, 1980-81
Institutional Biosafety Committee, 1980-83
College of Medicine Graduate Education Committee, 1982-85
Biochemistry Graduate Program Development Committee, 1983-84
Biochemistry Program Admissions Committee, 1983-84, 1986
Committee Chair, 1983-84, 1986
Clinical Chemistry Graduate Studies Committee, 1983-86
Radiobiology Search Committee, 1984
Medical Biochemistry Search Committee, 1984-85
Comprehensive Cancer Center Space Committee, 1985-94
Medical Radionuclide Committee, 1985-89
Molecular Genetics Search Committee, 1986
Biotechnology Advisory Committee, 1986-94
Medical Molecular Biology Program Committee, 1986-87
Ohio State Biochemistry Program, 1986, 1989-91, 1993-94
Director and Graduate Studies Committee Chair, 1989-91, 1993-94
Biotechnology Graduate Program Committee, 1987-88
University Hazardous and Radioactive Waste Committee, 1987-88
Medical Microbiology and Immunology Search Committee, 1987
Neurobiotechnology Search Committee, 1987-89
NCI Human Tissue Network Coordinating Committee, 1987-90
Medical Biochemistry/Neurology Search Committee, 1988
Rightmire Hall Remodelling Committee, 1988-89
Surgical Oncology Endowed Chair Search Committee, 1988-90
Medical Biochemistry Promotion and Tenure Committee, 1988
Advisory Committee for DNA Instrument Group, 1988-89
Botany/Biotechnology Search Committee, 1988-89
Medical Biotechnology Committee, 1989-90
Committee Chair, 1989-90

Veterans' Action Committee, 1990-92
College of Medicine Senate Caucus Committee, 1991-94
President's Veterans Task Force, 1991
Medical Biochemistry Promotion and Tenure Committee, 1991
 Committee Chair, 1991
Medical Scientist Program Committee, 1992-94
American Cancer Society Study Section, 1992
College of Medicine "Med I" Committee, 1992-94
College of Medicine "Med I" Student Evaluation Committee, 1992-94
Vice President's Diversity Training Task Force, 1993
OSU-CCF Research and Graduate Studies Committee, 1993-94
KSU Patent Advisory Committee, 1994-2001
 Committee Chair, 1998-2001
KSU Research Compliance Coordinating Committee, 1994-98
 Committee Chair, 1994-98
Kansas Council of Presidents' University Economic Impact Committee, 1995-96
 Committee Chair, 1995-96
KSU Veterinary Medicine Clinical Sciences' Vision Committee, 1995
 Committee Facilitator, 1995
KSU Data Administration Task Force, 1995-97
U.S. Department of Health and Human Services' Advisory Committee on Long-
 Term Health Effects of Phenoxy Herbicides, 1995-99; 2001-06
Kansas Board of Regents' Intellectual Property Committee, 1997-98
KSU Economic Impact Committee, 1997-98
 Committee Chair, 1997-98
KSU Intellectual Property Committee, 1998-99
NASULGC Council on Research Policy and Graduate Education, 1999-2005
 Executive Committee Liaison to ESCOP and COTT, 1999-2004
Natioanl Institute for Environmental Health Sciences' Ad Hoc Panel on Vietnam-
 U.S. Studies of Agent Orange/Dioxin, 2000-02
Kansas Strategic Research Committee, 2000-05
U.S. Army Medical Research and Materiel Command, Panel to Assess the Role of
 Indications and Warnings for the Prediction and Surveillance of Catastrophic
 Biological Events, 2004
Office of the Secretary of Defense Basic Research Review Panel, 2006
KSU National Bio and Agro-defense Facility Strategies Task Force, 2014-present
 Task Force Chair, 2014-present

INVITED SCIENTIFIC/MEDICAL CONFERENCE PRESENTATIONS:

"Alterations in tRNA Metabolism as Markers of Neoplastic Transformation." NATO Advanced Study Institute, Corfu Island, Greece. *Biochemical and Biological Markers of Neoplastic Transformation*. September 28 to October 10, 1981.

"Clinical Application of Urinary Nucleosides in Cancer." University of Texas M.D. Anderson Hospital and Tumor Institute, Houston, Texas. *Laboratory Testing in Cancer: Current Concepts and Applications*. February 9-10, 1984.

“Inosine Biosynthesis in Transfer RNA and its Potential Role in Differentiated Lymphocyte Function.” Northeastern University, Boston, Massachusetts. *Nucleosides and Lymphocytes*. October 12-14, 1984.

“Queuine Deficient tRNA and Neoplastic Progression.” University of Erlangen-Nürnberg, Erlangen, West Germany. *Symposium on the Transfer-RNA Modification Queuosine*. June 1-4, 1985.

“Inosine Biosynthesis in the Anticodon of Transfer RNA.” University of Umeå, Umeå, Sweden. *12th International Workshop on tRNA*. July 3-9, 1987.

“Changes in tRNA Anticodon Modification and Induction of Leukemia Cell Differentiation.” University of Umeå, Umeå, Sweden. *Symposium on tRNA Modification*. July 9-12, 1987.

“Military Applications of Nanoparticles: Protecting Against Chemical and Biological Threats.” Association of the United States Army, San Antonio, Texas. *Army Medicine Symposium*, May 30 to June 1, 2001.

“Military Applications of Nanoparticles: Protecting Against Chemical and Biological Threats.” Invited (faculty) presentation for the 4th Annual U.S. Army Medical Command’s *Force Health Protection Conference*, Albuquerque, New Mexico. August 26-30, 2001.

INVITED FEDERAL CONGRESSIONAL TESTIMONY:

R.W. Trewyn and James A. Stever: “Title 38, United States Code, Section 4212: Implementation and Enforcement by the U.S. Department of Labor.” Written testimony requested by the U.S. House of Representatives’ Veterans Affairs Committee, October 14, 1993.

R.W. Trewyn: “Inadequacies of Federal Agent Orange Studies.” Requested testimony to the U.S. House of Representatives’ National Security, Veterans Affairs, and International Affairs Subcommittee, Washington, DC. *Air Force Ranch Hand Study on the Health Effects of Agent Orange*, March 15, 2000.

INVITED VETERANS AFFAIRS PRESENTATIONS:

“Does Political Correctness Relate to Anti-Veteran Bias on the College Campus?” Ohio Association of Scholars. *Political Correctness in Ohio*. Columbus, Ohio, November 20, 1992.

“U.S. Army Infantry Operations in Vietnam.” Requested testimony to a National Academy of Sciences’ Institute of Medicine Committee, Irvine, California. *Health Effects in Vietnam Veterans of Exposure to Herbicides*. February 8, 1993.

“Veterans’ Rights: What Went Wrong?” Reserve Officers Association. *68th Annual State Convention*. Presentation with James A. Stever, Ph.D. Cincinnati, Ohio, April 23, 1993.

“Unequal Employment Opportunity for Military Veterans.” Keynote address at the *Council of Scholars Colloquium* sponsored by the Vietnam Veterans Institute. Army Navy Club, Washington, D.C. November 12, 1993.

“Welcome Home!” Invited presentation of original prose at the Arts Club of Washington, Washington, D.C. *An Evening of Blues, Poetry, and Prose*. Adrian Cronauer (*Good Morning, Vietnam!* Screenplay Author), Master of Ceremonies. November 12, 1993

“Employment Disparities and the Vietnam Veteran.” Hoffberger Center for Professional Ethics, University of Baltimore, Baltimore, Maryland. *The History and Legacy of Those Who Served in Vietnam*. Presentation with James A. Stever, Ph.D. and William E. Weber, Esq. November 8 to 9, 1994.

INVITED RESEARCH ADMINISTRATION PRESENTATIONS:

“To Be or Not to Be (a Research University) ... That *WAS* the Question.” National Association of State Universities and Land Grant Colleges, Key West, Florida. *Council on Research Policy and Graduate Education Summer Forum*, July 17 to 20, 2000.

“Bricks and Mortar: The Crumbling Research Infrastructure.” National Association of State Universities and Land Grant Colleges, Mystic, Connecticut. *Council on Research Policy and Graduate Education Summer Forum*, June 21 to 24, 2002.

“The Academic Response to 9/11.” National Association of State Universities and Land Grant Colleges, Mystic, Connecticut. *Council on Research Policy and Graduate Education Summer Forum*, June 21 to 24, 2002.

“Bricks and Mortar: The Crumbling Research Infrastructure.” Council on Research Policy and Graduate Education Session, Chicago, Illinois. *National Association of State Universities and Land Grant Colleges National Meeting*, November, 10 to 13, 2002.

“Ecological Adaptation: Finding a New Niche (for Human Ecology) in a New Era.” Board on Human Biosciences Session, Chicago, Illinois. *National Association of State Universities and Land Grant Colleges National Meeting*, November 10 to 13, 2002.

PATENT AWARDED:

R.W. Trewyn and S.M. D’Ambrosio. Early cancer detection method. Patent No. 4,687,733; August 18, 1987.

PEER-REVIEWED SCIENTIFIC JOURNAL ARTICLES:

Nakamura, K.D., Trewyn, R.W. and Parks, L.W. Purification and characterization of serine transhydroxymethylase from *Saccharomyces cerevisiae*. *Biochim. Biophys. Acta* 327: 328-335, 1973.

Trewyn, R.W., Nakamura, K.D., O'Connor, M.L. and Parks, L.W. An interaction between S-adenosyl-L-methionine and pyridoxal 5'-phosphate and its effect on *Saccharomyces cerevisiae*. *Biochim. Biophys. Acta* 327: 336-344, 1973.

Trewyn, R.W. and Kerr, S.J. The enzymatic synthesis of S-adenosyl-L-[2(n)³H]-homocysteine. *Anal. Biochem.* 82: 310-316, 1977.

Trewyn, R.W. and Kerr, S.J. Altered growth properties of Chinese hamster cells exposed to l-methylguanine and 7-methylguanine. *Cancer Res.* 38: 2285-2289, 1978.

Trewyn, R.W., Kerr, S.J. and Lehman, J.M. Karyotype and tumorigenicity of 1-methylguanine-transformed Chinese hamster cells. *J. Natl. Cancer Inst.* 62: 633-638, 1979.

Trewyn, R.W. and Kerr, S.J. Cytotoxicity of N⁶-substituted adenosine analogues to cultured trophoblastic tumor cells. *Biochem. Pharmacol.* 28: 607-612, 1979.

Gwebu, E.T., Trewyn, R.W., Cornwell, D.G. and Panganamala, R.V. Vitamin E and the inhibition of platelet lipoxigenase. *Res. Comm.. Chem. Path. Pharmacol.* 28: 361-376, 1980.

Trewyn, R.W. and Kerr, S.J. An improved rapid assay for S-adenosyl-L-homocysteine hydrolase. *J. Biochem. Biophys. Methods* 4: 299-307, 1981.

Karpen, C.W., Merola, A.J., Trewyn, R.W., Cornwell, D.G. and Panganamala, R.V. Modulation of platelet thromboxane A₂ and arterial prostacyclin by dietary vitamin E. *Prostaglandins* 22: 651-661, 1981.

Trewyn, R.W., Glaser, R., Kelly, D.R., Jackson, D.G., Graham, W.P. and Speicher, C.E. Elevated nucleoside excretion by patients with nasopharyngeal carcinoma: Preliminary diagnostic/prognostic evaluations. *Cancer* 49: 2513-2517, 1982.

Elliott, M.S. and Trewyn, R.W. Queuine hypomodification of tRNA induced by 7-methylguanine. *Biochem. Biophys. Res. Commun.* 104: 326-332, 1982.

Heldman, D.A., Grever, M.R. and Trewyn, R.W. Differential excretion of modified nucleosides in adult acute leukemia. *Blood* 61: 291-296, 1983.

Heldman, D.A., Grever, M.R., Speicher, C.E. and Trewyn, R.W. Urinary excretion of modified nucleosides in chronic myelogenous leukemia. *J. Lab. Clin. Med.* 101: 783-792, 1983.

Heldman, D.A., Grever, M.R., Miser, J.S. and Trewyn, R.W. Relationship of modified nucleoside excretion to disease status in childhood acute lymphoblastic leukemia. *J. Natl. Cancer Inst.* 71: 269-273, 1983.

Gama-Sosa, M.A., Slagel, V.A., Trewyn, R.W., Oxenhandler, R., Kuo, K.C., Gehrke, C.W. and Ehrlich, M. The 5-methylcytosine content of DNA from human tumors. *Nucleic Acids Res.* 11: 6883-6894, 1983.

Elliott, M.S. and Trewyn, R.W. Inosine biosynthesis in transfer RNA by an enzymatic insertion of hypoxanthine. *J. Biol. Chem.* 259: 2407-2410, 1984.

Geisbuhler, T., Altschuld, R.A., Trewyn, R.W., Ansel, A.Z., Lamka, K. and Brierley, G.P. Adenine nucleotide metabolism and compartmentation in isolated adult rat heart cells. *Circ. Res.* 54: 536-546, 1984.

Trewyn, R.W. and Gatz, H.B. Altered growth properties of normal human cells induced by phorbol 12,13-didecanoate. *In Vitro* 20: 409-415, 1984.

Trewyn, R.W. Inosine biosynthesis in transfer RNA: A postulated role in immune regulation. *Med. Hypoth.* 13: 369-380, 1984.

Elliott, M.S., Katze, J.R. and Trewyn, R.W. Relationship between a tumor promoter-induced decrease in queuine modification of transfer RNA in normal human cells and the expression of an altered cell phenotype. *Cancer Res.* 44: 3215-3219, 1984.

Elliott, M.S., Trewyn, R.W. and Katze, J.R. Inhibition of queuine uptake in cultured human fibroblasts by phorbol 12,13-didecanoate. *Cancer Res.* 45: 1079-1085, 1985.

Trewyn, R.W., Kretz, K.A., Utz, E.D., Patrick, D.E. and Muralidhar, G. Hematopoiesis and the inosine modification in transfer RNA. *Proc. Soc. Exp. Biol. Med.* 179: 497-503, 1985.

Muralidhar, G. and Trewyn, R.W. Enhancement of the chemical transformation of Chinese hamster embryo cells *in vitro* by 7-methylguanine. *Cancer Res.* 47: 2440-2444, 1987.

Kretz, K.A., Katze, J.R. and Trewyn, R.W. Guanine analog-induced differentiation of human promyelocytic leukemia cells and altered queuine modification of tRNA. *Mol. Cell. Biol.* 7: 3613-3619, 1987.

Ochieng, J., Patrick, D.E., Utz, E.D. and Trewyn, R.W. Inhibition of phorbol ester-mediated phenotypic changes in cultured cells by hypoxanthine. *Carcinogenesis* 8: 1629-1633, 1987.

Muralidhar, G., Utz, E.D., Elliott, M.S., Katze, J.R. and Trewyn, R.W. Identifying inhibitors of queuine modification of tRNA in cultured cells. *Anal. Biochem.* 171: 346-351, 1988.

Muralidhar, G., Ochieng, J. and Trewyn, R.W. Altered queuine modification of transfer RNA involved in the *in vitro* transformation of Chinese hamster embryo cells. *Cancer Res.* 49: 7110-7114, 1989.

Gibboney, D.S., French, B.T., Patrick, D.E. and Trewyn, R.W. 6-Ethylmercaptapurine-mediated growth inhibition of HL-60 cells *in vitro* irrespective of purine salvage. *Cancer Chemother. Pharmacol.* 25: 189-194, 1989.

French, B.T., Patrick, D.E., Grever, M.R. and Trewyn, R.W. Differential effect of 6-ethylmercaptapurine on *c-myc* expression in wild-type and HGPRT-deficient HL-60 cells. *Cancer Chemother. Pharmacol.* 27: 171-177, 1990.

Milo, G.E., Kurian, P., Shuler, C., French, B.T., Noyes, I., Hollering, J., Mannix, D.G., Sital, N., Schuller, D. and Trewyn, R.W. Nontumorigenic squamous cell carcinoma line converted to tumorigenicity with methyl methanesulfonate without activation of *H-ras* or *myc*. *Proc. Natl. Acad. Sci. U.S.A.* 87: 1268-1272, 1990.

Shuler, C., Kurian, P., French, B.T., Noyes, I., Sital, N., Hollering, J., Trewyn, R.W., Schuller, D. and Milo, G.E. Noncorrelative *c-myc* and *ras* oncogene expression in squamous cell carcinoma cells with tumorigenic potential. *Teratog. Carcinog. Mutagen.* 10: 53-65, 1990.

French, B.T. and Trewyn, R.W. Modification of the anticodon wobble position of tRNA^{Ala} *in vitro* does not require 5' or 3' processing. *Gene* 96: 301-304, 1990.

French, B.T., Patrick, D.E., Grever, M.R. and Trewyn, R.W. Queuine, a tRNA anticodon wobble base, maintains the proliferative and pluripotent potential of HL-60 cells in the presence of the differentiating agent 6-thioguanine. *Proc. Natl. Acad. Sci. U.S.A.* 88: 370-374, 1991.

D'Ambrosio, S.M., Gibson-D'Ambrosio, R.E. and Trewyn, R.W. An enzyme-linked immunosorbent assay (ELISA) for the detection and quantitation of the tumor marker 1-methylinosine in human urine. *Clin. Chem. Acta* 199: 119-128, 1991.

Gündüz, U., Elliott, M.S., Seubert, P.H., Houghton, J.A., Houghton, P.J., Trewyn, R.W. and Katze, J.R. Absence of tRNA-guanine transglycosylase in a human colon adeno-carcinoma cell line. *Biochim. Biophys. Acta* 1139: 229-238, 1992.

Utz, E.D., Siravo-Sagraves, G.M., Trewyn, R.W. and Morgan, C.J. Detection of human tRNAs with antisense oligonucleotides. *Anal. Biochem.* 216: 110-117, 1994.

Morgan, C.J., Chawdry, R.N., Smith, A., Siravo-Sagraves, G.M., and Trewyn, R.W. 6-Thioguanine-induced growth arrest in 6-mercaptopurine-resistant human leukemia cells. *Cancer Res.* 54: 5387-5393, 1994.

Morgan, C.J., Merrill, F.L., and Trewyn, R.W. Defective tRNA queuine modification in C3H10t1/2 murine fibroblasts transfected with oncogenic *ras*. *Cancer Res.* 56: 594-598, 1996.

Auxilien, S., Crain, P., Trewyn, R.W., and Grosjean, H. Mechanism, specificity and general properties of the yeast enzyme catalyzing the formation of inosine-34 in the anticodon of transfer RNA. *J. Mol. Biol.* 262: 437-458, 1996.

SCIENTIFIC BOOK CHAPTERS:

Trewyn R.W. and Kerr, S.J. Regulation of tRNA methyltransferase activity in onco-development systems. In: Onco-Developmental Gene Expression (W.H. Fishman and S. Sell, eds.), pp. 101-106, Academic Press, New York, 1976.

Milo, G.E., Trewyn, R.W., Tejwani, R. and Oldham, J.W. Intertissue variation in benzo(a)pyrene metabolism by human skin, lung, and liver *in vitro*. In: Toxic Hazards in Aviation, AGARD Publication 309, pp. B7 1-9, NATO, Neuilly-sur-Seine, France, 1981.

Tejwani, R., Trewyn, R.W. and Milo, G.E. Kinetics of movement of benzo(a)pyrene into transformable and non-transformable human diploid cells. In: Chemical Analysis and Biological Fate: Polynuclear Aromatic Hydrocarbons (M. Cooke and A.J. Dennis, eds.), pp. 97-107, Battelle Press, Columbus, 1981.

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Trewyn, R.W. "Evaluating university research productivity: What's the ROI ... and who cares?" Merrill Advanced Studies Center, University of Kansas, Conference Report No. 105, pp. 71-75, 2001.

Trewyn, R.W. "Recruiting and training future scientists: Converting intellectual capital into intellectual property." Merrill Advanced Studies Center, University of Kansas, Conference Report No. 107, pp. 51-58, 2003.

Trewyn, R.W. "Research challenges in changing times: Lead, follow, or get out of the way." Merrill Advanced Studies Center, University of Kansas, Conference Report No. 108, pp. 63-72, 2004.

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Muralidhar, G., Ochieng, J. and Trewyn, R.W. Methylated purine-mediated changes in transfer RNA modification: Biological implications. *Fed. Proc.* 45: 1895, 1986.

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Morgan, C.J., Chawdry, R.N., Smith, A., Siravo-Sagraves, G.M., and Trewyn, R.W. 6-Thioguanine-induced growth arrest in 6-mercaptopurine-resistant human leukemia cells. *Proc. Amer. Assoc. Cancer Res.* **35**: 388, 1994.

Morgan, C.J., Merrill, F.L., and Trewyn, R.W. Expression of mutant p53 protein in cells with defective tRNA-queuine modification. *Proc. Amer. Assoc. Cancer Res.* **36**: 523, 1995.

NATIONAL BIO AND AGRO-DEFENSE FACILITY (NBAF)

NBAF WEBSITE MANAGEMENT: <http://www.k-state.edu/nbaf/>

Construction Update: <http://www.k-state.edu/nbaf/construction/>

Research Mission: <http://www.k-state.edu/nbaf/research-mission/index.html>

Corporate Partnerships: <http://www.k-state.edu/nbaf/corporate-partnerships/index.html>

Community Partnerships: <http://www.k-state.edu/nbaf/community-partnerships/index.html>

Timeline and Funding: <http://www.k-state.edu/nbaf/timeline-and-funding/>

FAQ: <http://www.k-state.edu/nbaf/faq/>

Documents and Resources: <http://www.k-state.edu/nbaf/documents/>

NBAF PARTNERSHIP SUMMITS DEVELOPED AND HOSTED:

2015: June 23-24 — “Pioneering Partnerships with NBAF” — A summit with livestock producers and the animal health industry about science, synergy, and security; building a collaborative environment for NBAF.

2016: May 9-10 — “Pioneering Partnerships with NBAF 2.0” — A second summit with livestock producers and the animal health industry about science, synergy, and security; reinforcing the collaborative environment for NBAF.

PUBLISHED NBAF REVIEW ARTICLE:

Behnke, Maggie Struck and Trewyn, R.W. Foreign animal disease threats and the National Bio and Agro-defense Facility. *ALN Magazine* **16** (3): 6-8, June 2018.

<https://www.alnmag.com/article/2018/05/foreign-animal-disease-threats-and-national-bio-and-agro-defense-facility>

NBAF PRESENTATIONS TO PROFESSIONAL ASSOCIATIONS/SOCIETIES:

- 1) “NBAF: Coming to Kansas.” National Farm Broadcasters Annual Conference, Bonner Springs, KS. November 12-13, 2009.
- 2) “Bio and Agrodefense Update.” FBI International Symposium on Agroterrorism, Kansas City, MO, with Tim Barr, DHS. April 26-28, 2011.
- 3) “National Bio and Agro-defense Facility (NBAF): Confronting Global Threats.” American Veterinary Medical Association, National Meeting, San Antonio, TX. August 5-9, 2016.
- 4) “National Bio and Agro-defense Facility — NBAF — Global Risks.” The Farm Credit System Review, Audit, Appraisal Workgroup (RAAW) Annual Conference, Washington, DC, August 29-31, 2016.
- 5) “National Bio and Agro-defense Facility: International Infectious Solutions Laboratory (NBAF I²SL),” Plenary Lecture. International Institute for Sustainable Laboratories (I²SL), Annual Meeting, Kansas City, MO, September 26-28, 2016.
- 6) “National Bio and Agro-defense Facility: Confronting Global Infectious Disease Threats.” 2017 International Nidovirus Conference, Kansas City, MO, June 4-7, 2017
- 7) “National Bio and Agro-defense Facility (NBAF): Confronting Global Threats.” American Association for Laboratory Animal Science, National Meeting, Austin, TX. October 15-19, 2017.
- 8) “Biothreats: How to Scare People into Action Without Actually Scaring Them.” National Agri-business Marketing Association (Missouri/Kansas), Kansas City, MO. Moderator with Jim Stack, KSU (crop biothreats); Steve Higgs, KSU (animal & vector biothreats); and Marty Vanier, DHS (NBAF solutions), May 9, 2018.
- 9) “National Bio and Agro-defense Facility: Protecting Livestock and People from Foreign Animal Diseases and Bioweapons.” Kansas Society of Professional Engineers, Annual Conference, Manhattan, KS, June 6-8, 2018.
- 10) “National Bio and Agro-defense Facility: Protecting America from Global Biothreats.” 14th Annual Midwest Area Biosafety Network (MABioN) Biosafety Symposium, Manhattan, KS, August 6-8, 2018.

ADDITIONAL INVITED NBAF PRESENTATIONS:**2009:**

- 1) January 15 Rotary Club, Manhattan, KS
- 2) February 2 Pottawatomie County Commission, Westmoreland, KS
- 3) February 16 Leadership Kansas Program, Manhattan, KS

- 4) February 27 Topeka Chamber of Commerce, Topeka, KS
 - 5) March 4 Shawnee Economic Development Council, Lawrence, KS
 - 6) March 16 Little Apple Pilot Club, Manhattan, KS
 - 7) March 19 Press Conference with KS Legislative Leaders, Topeka, KS
 - 8) March 23 Lion's Club Farmers Night, Garnett, KS
 - 9) June 4 Kansas Association of Airports, Manhattan, KS
 - 10) June 17 Human Resource Management Network, Manhattan, KS
 - 11) June 23 Emporia Chamber of Commerce Leadership, Manhattan, KS
 - 12) June 23 Manhattan Kiwanis, Manhattan, KS
 - 13) July 27 Manhattan Lion's Club, Manhattan, KS
 - 14) August 19 Great Bend Chamber of Commerce, Great Bend, KS
 - 15) September 21 Pottawatomie County Commission, Westmoreland, KS
 - 16) September 24 Kansas Bankers Association, Manhattan, KS
 - 17) October 12 KBA Legislative Tour Group, Manhattan, KS
 - 18) October 13 Farmers Bank and Trust Annual Banquet, Albert, KS
 - 19) November 5 Clay Center Chamber of Commerce, Clay Center, KS
- 2010:**
- 20) January 3 KSU Animal Science & Industry Department, Manhattan, KS
 - 21) February 9 Kansas Farm Bureau, Manhattan, KS
 - 22) February 11 Leadership Mitchell County Group, Manhattan, KS
 - 23) February 26 Kansas Society of Farm Manager & Rural Appraisers, Salina, KS
 - 24) March 1 Solar Kiwanis, Manhattan, KS
 - 25) March 26 KSU Faculty Senate Committee, Manhattan, KS
 - 26) April 12 Rotary Club, Washington, KS
 - 27) April 15 Horticulture & Agroforestry Research Conference, Kansas City, MO
 - 28) May 17 KU Wheat State Tour Group, Manhattan, KS
 - 29) July 15 KSU Alumni Association, Eureka, KS
 - 30) July 19 Wamego Chamber of Commerce, Wamego, KS
 - 31) August 24 Up Close Radio Program, Clay Center, KS
 - 32) September 13 Farm Bureau, Washington, KS
 - 33) September 22 Kansas Economic Development Alliance, Manhattan, KS
 - 34) September 28 Ottawa Chamber of Commerce Annual Meeting, Ottawa, KS
 - 35) October 11 Riley County Employees, Manhattan, KS
 - 36) November 16 Manhattan Chamber of Commerce, Manhattan, KS
 - 37) November 29 Pottawatomie County Commission, Westmoreland, KS
 - 38) December 9 AgriNEXT Conference, Wichita, KS
- 2011:**
- 39) January 5 Kansas Veterinary Response Corps Conference, Manhattan, KS
 - 40) January 20 AARP Members, Senior Center, Manhattan, KS
 - 41) February 8 Leadership Mitchell Country, Manhattan, KS
 - 42) February 22 Catbacker Club, Manhattan, KS
 - 43) February 24 BioSecurity Working Group, Manhattan, KS

- 44) March 18 Kansas Flying Farmers, Manhattan, KS
 45) April 8 Northeast Area Office Professional Training, Manhattan, KS
 46) April 20 Leadership Manhattan, Manhattan, KS
 47) May 16 Marysville Rotary Club, Marysville, KS
 48) June 6 5th Biennial Spotlight on Greater Kansas City, Kansas City, MO
 49) June 10 KSU Alumni Board of Directors, Manhattan, KS
 50) August 8 USDA National Extension Agents Meeting, Overland Park, KS
 51) August 23 Kansas Agribusiness Retailers Association, Manhattan, KS
 52) September 2 Abilene Rotary, Abilene, KS
 53) September 27 Clay County Economic Development, Clay Center, KS
 54) October 28 Cargill Corporation, Manhattan, KS
 55) December 7 Manhattan Chamber of Commerce, Manhattan, KS
- 2012:**
- 56) February 23 Military Officers of America (Flint Hills Chapter), Fort Riley, KS
 57) February 28 Frontier Farm Bureau Credit, Manhattan, KS
 58) April 12 Kansas Land Title Association, Manhattan, KS
 59) April 18 Leadership Manhattan, Manhattan, KS
 60) April 23 Intergovernmental Council, Manhattan, KS
 61) May 8 Big 12 Auditors Conference, Manhattan, KS
 62) July 27 Leadership Kansas, Manhattan, KS
 63) August 2 Clay Center Rotary, Clay Center, KS
 64) October 25 Flint Hills Regional Leadership Group, Manhattan, KS
 65) November 26 Intergovernmental Council, Manhattan, KS
- 2013:**
- 66) January 28 Kansas Farm Bureau Board, Manhattan, KS
 67) February 1 Kansas City Tomorrow Leadership Class, Kansas City, KS
 68) February 27 Pilot Club of Manhattan, Manhattan, KS
 69) March 11 Salina Noon Rotary Club, Salina, KS
 70) March 14 American Society of Civil Engineers-KDOT, Abilene, KS
 71) March 26 Manhattan Chamber of Commerce, Manhattan, KS
 72) May 24 Flint Hills Regional Council, Woodbine, KS
 73) July 17 Kiwanis, Wichita, KS
 74) July 24 Foreign Animal Disease Course, Manhattan, KS
 75) September 23 Kiwanis State Meeting, Topeka, KS
 76) October 11 Partner Appreciation Day, Junction City, KS
 77) November 19 Science Café, Topeka, KS
- 2014:**
- 78) January 8 Johnson County Bar Association, Overland Park, KS
 79) January 22 Abilene Lions Club, Abilene, KS
 80) February 18 Mitchell County Leadership Group, Manhattan, KS
 81) March 8 Eisenhower Leadership Series, Council Grove, KS
 82) March 12 Hutchinson-Mayrath Manufacturing (Clay Center), Manhattan, KS

- 83) March 24 Kansas City Civic Council, Kansas City, MO
- 84) April 11 UMB Financial Corporation Executives, Manhattan, KS
- 85) April 28 Kansas Farm Bureau Board, Manhattan, KS
- 86) April 29 Kansas City Area Life Sciences Translational Med., Manhattan, KS
- 87) May 22 Manhattan Council of Churches, Manhattan, KS
- 88) June 7 Kansas Lions Club 93rd Annual State Convention, Manhattan, KS
- 89) July 25 Leadership Kansas Class, Manhattan, KS
- 90) September 11 North Campus Corridor Architects – Perkins & Will, Manhattan, KS
- 91) September 27 College of Veterinary Medicine Alumni, Manhattan, KS
- 92) September 29 Wichita State University Biology Department, Wichita, KS
- 93) October 24 KSU Arts and Sciences Council, Manhattan, KS
- 94) December 5 Academy of Veterinary Consultants, Kansas City, MO
- 2015:**
- 95) February 3 2015 Bioscience Day at the Capital, Topeka, KS
- 96) February 6 Life Sciences Day, Kansas City, MO
- 97) February 9 Kansas Agriculture Alliance, Topeka, KS
- 98) February 17 Mitchell County Leadership Class, Manhattan, KS
- 99) March 12 Leadership Manhattan, Manhattan, KS
- 100) March 21 Eisenhower Public Service Series, Council Grove, KS
- 101) March 23 Wamego Chamber of Commerce, Wamego, KS
- 102) April 13 Wichita Science Café, Wichita, KS
- 103) April 29 Council Grove Rotary Club, Council Grove, KS
- 104) April 30 KSU College of Engineering, Manhattan, KS
- 105) May 7 Kansas Health Foundation, Manhattan, KS
- 106) May 14 Kansas City American Public Works, Manhattan, KS
- 107) May 15 KCK Chamber of Commerce Congressional Forum, Kansas City, KS
- 108) August 19 Manhattan Chamber of Commerce Board, Manhattan, KS
- 109) August 19 BioKansas Board Meeting, Manhattan, KS
- 110) October 29 Leadership Kansas, Manhattan, KS
- 111) November 7 Daughters of the American Revolution, Manhattan, KS
- 112) November 17 CEEZAD Annual Meeting, Nebraska City, NE
- 113) December 7 Kansas Farm Bureau Workshop, Manhattan, KS
- 2016:**
- 114) January 13 Blue Valley Pork Producers, Leonardville, KS
- 115) January 23 Flint Hills Regional Leader’s Retreat, Overland Park, KS
- 116) February 16 Mitchell County Leadership Class, Manhattan, KS
- 117) February 19 Flint Hills Regional Council, Clay Center, KS
- 118) February 25 Kansas Farm Bureau, Manhattan, KS
- 119) March 10 Leadership Manhattan, Manhattan, KS
- 120) March 15 2016 Annual Meeting, Manhattan, KS
- 121) March 18 Flinthills Regional Council, Manhattan, KS
- 122) March 23 Clay County Economic Development, Clay Center, KS

- 123) March 29 Junction City Rotary Club, Junction City, KS
- 124) April 6 Geary County Economic Development Committee, Junction City, KS
- 125) May 11 Merck Animal Health, Desoto, KS
- 126) May 13 Concordia Economic Development, Concordia, KS
- 127) May 16 Alabama Farmers Federation, Manhattan, KS
- 128) July 20 Animal Health in the Heartland Preparedness Panel, Omaha, NE
- 129) July 29 Kansas Soybean Commission, KDA, Manhattan, KS
- 130) August 6 Limousin Livestock Association, Manhattan, KS
- 131) August 17 Lyon County Economic Development Group, Emporia, KS
- 132) August 18 Marysville Economic Development, Marysville, KS
- 133) November 3 North Central Regional Planning Commission, Abilene, KS

2017:

- 134) January 30 Riley County Livestock Association, Manhattan, KS
- 135) February 15 Wichita Rotary Club, Wichita, KS
- 136) March 9 Leadership Manhattan, Manhattan, KS
- 137) March 30 Kansas Farm Bureau Leadership Class, Manhattan, KS
- 138) April 8 Eisenhower Leadership Series, Council Grove, KS
- 139) July 24 Kansas Farm Bureau Board, Manhattan, KS
- 140) August 8 FBI Animal/Plant Health Criminal-Epi Course, Manhattan, KS
- 141) August 15 Kansas Farm Bureau Producers, Manhattan, KS
- 142) September 18 Wichita Downtown Rotary Club, Wichita, KS

2018:

- 143) January 12 Kansas Farm Bureau Leadership Class, Manhattan, KS
- 144) February 2 Konza Rotary, Manhattan, KS
- 145) February 13 The Plaza Club, Kansas City, MO
- 146) February 26 Marysville FFA Alumni, Marysville, KS
- 147) March 8 Leadership Manhattan, Manhattan, KS
- 148) March 20 USDA Bovine Tuberculosis Eradication Program, Manhattan, KS
- 149) March 26 Kentucky Farm Bureau Beef Producers Group, Manhattan, KS
- 150) April 13 College of Agriculture Advisory Council, Manhattan, KS
- 151) November 15 Topeka Downtown Rotary Club, Topeka, KS

2019:

- 152) January 10 Kansas Farm Bureau Leadership Class, Manhattan, KS