Professor Emeritus Garth L. Nicolson, Ph.D., M.D. (H)

Birth Date: 10/01/1943 **Current Date:** 06/19/2017
Birth Place: Los Angeles, California
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Education:

1970, Ph.D., Biochemistry/Cell Biology,
University of California, San Diego
1965, B.S., Chemistry, University of California, Los Angeles

Professional Experience:

Primary Appointment:
1996-Present, President, Chief Scientific Officer and Emeritus Professor of Molecular Pathology, The Institute for Molecular Medicine, PO Box 9355, S. Laguna Beach, CA 92652
Secondary Appointments:
2003-Present, Conjoint Emeritus Professor, Faculty of Science and Technology, University of Newcastle, Newcastle, Australia
Previous Appointments:
1989-00, Professor, Department of Internal Medicine, The University of Texas Medical School, Houston, TX
1981-99, Adjunct Professor, Department of Pathology, School of Veterinary Medicine, Texas A & M University, College Station, TX
1982-99, Professor, Department of Pathology and Laboratory Medicine, The University of Texas Medical School, Houston, TX
1980-96, David Bruton Jr. Chair in Cancer Research, Professor and Chairman, Tumor Biology, The University of Texas
M. D. Anderson Cancer Center, Houston, TX
1980-96, Professor, The Graduate School of Biomedical Sciences, The University of Texas Health Science
Center, Houston, TX
1980-87, Florence M. Thomas Professor of Cancer Research, The University of Texas M. D. Anderson Cancer Center, Houston, TX
1978-80, Professor, Department of Physiology and Biophysics, College of Medicine, University of California, Irvine, CA
1977-80, Associate Director, Oncology Program, University of California, Irvine, CA
1975-80, Professor, Department of Developmental and Cell Biology, University of California, Irvine
1974-76, Chairman, Department of Cancer Biology, The Salk Institute, La Jolla, CA
1972-74, Head, Cancer Council Laboratory, Director, Electron Microscopy Laboratory, The Salk Institute, La Jolla, CA
1970-71, Senior Research Associate, Cancer Council Laboratory, The Salk Institute, La Jolla, CA
1967-70, USPHS Predoctoral Fellow University of California, San Diego, CA

Editorships and Editorial Boards:

Editor (Current Editor or Field Editor: 3):

Clinical & Experimental Metastasis (Founding & Emeritus Editor), 1981-2002
Journal of Cellular Biochemistry (Field Editor)
Journal of Functional Foods in Health and Disease (Co-Editor)
Discoveries (Open Access) (Field Editor)
Cancer & Metastasis Reviews (Founding & Emeritus Editor), 1981-1989
Cell Surface Reviews (Founding Editor), 1976-1983
Experimental Cell Research (Emeritus Field Editor), 1978-1984

Associate Editor (Current Associate Editor: 10):

Advances in Molecular Medicine
Biochimica et Biophysica Acta, 1973-1979
Cancer Biology Reviews, 1978-1984
Cancer Communications, 1988-1992
Cancer & Metastasis Reviews, 1987-2004
Cancer Molecular Biology, 1994-1999
Cancer Research, 1981-84, 1985-1989, 1990-1995
Cancer Reviews, 1984-1990
Current Cancer Therapy Reviews
Discoveries
Experimental Cell Biology, 1985-1991
Experimental Cell Research, 1978-1994
Gamete Research, 1978-1984
International Journal of Cancer, 1984-1993
Invasion & Metastasis, 1974-1999
ISRN Biochemistry
Journal of the American Nutraceutical Association, 2003-2010
Journal of Chronic Fatigue Syndrome, 2000-2005
Journal of Experimental Therapeutics and Oncology
Medical Veritas
Molecular Biology of Cancer
Molecular & Cellular Biochemistry, 2001-2012
Natural Immunity & Cell Growth Regulation, 1985-1989
Oncology Research, 1990-2004
Open Cancer Journal
Open Tropical Medicine Journal
Open Tropical Medicine Reviews
Pathobiology, 1991-1999
Receptors & Recognition, 1974-1979
Yearbook of Cancer, 1982-1987

National & Intern. Committee Memberships:

Member, Board of Scientific Advisors, CFIDS Association of America, 2008-
Member, Board of Advisors, Lay Foundation, 2008-
Member, Board of Advisors, Lyme in Autism Foundation, 2007-
Member, Board of Advisors, The Healthy Foundation, 2001-
Member, Board of Advisors, Road Back Foundation, 2000-

Member, Susan Koman Foundation for Breast Cancer Research Review Committee, 1995-1998
Chairman, Medical-Scientific Panel, Persian Gulf War Veterans Conference, 1995
Chairman, American Cancer Society Review Committee, Personnel B Review Committee, 1990-1994
Chairman, USAMRDC Review Committee on Breast Cancer, Endocrinology-2 Committee, 1994
Member, Extramural Scientific Advisory Committee, Moffitt Cancer Center, The University of South Florida, 1995-1998
Member, Extramural Scientific Advisory Committee, The University of Arizona Health Sciences Center, 1991-1999
Member, Extramural Scientific Advisory Committee, Roswell Park Memorial Institute, Buffalo, NY, 1988-1993
Member, Extramural Scientific Advisory Committee, The University of Nebraska Health Sciences Center, 1994-1996
Reviewer, National Cancer Institute Cancer Centers Program, 1974-1993
Member, National Cancer Institute Large Bowel Cancer Project, 1984-1988
Member, National Cancer Institute Organ Systems Program, 1984-1988
Member, National Cancer Institute Construction Review Committee, 1982-1986
Member, National Cancer Institute Breast Cancer Task Force, 1983-1986
Chairman, American Cancer Society Review Committee, Cell and Developmental Biology, 1979-1983
Member (Ad Hoc), NIH Pathology B Study Section, 1976-1981
Member, U.S.-Japan Cooperative Cancer Research Program, 1976-1980
Member, Advisory Committee, Division of Cancer Cause and Prevention, National Cancer Institute, 1974-1979
Member, National Cancer Institute Virus-Cancer Program Review Committee, 1974-1979
Member, World Health Organization Task Force on Human Fertility, 1973-1976

Consultantships and Visiting Professorships:

Conjoint Emeritus Professor, University of Newcastle (Aust.), 1999-
Distinguished Visiting Professor, Kuwait University, 1998
Visiting Professor, Ain Shams University, Faculty of Medicine, Cairo, Egypt, 1998
Burroughs Wellcome Distinguished Visiting Professor, Royal Society of Medicine, London, 1991
Roswell Park Memorial Distinguished Professor Lectureship, Buffalo, New York, 1991
Diana J. Benz Memorial Lectureship in Breast Cancer Research, The University of Iowa, 1991
Arnold D. Welch Visiting Professorship, Yale University, 1988
University of Arizona Health Sciences Center, 1990-1998
Creighton University School of Medicine, 1993-1995
University of Nebraska Health Sciences Center, 1993-1995
University of Pittsburgh Cancer Research Institute, 1989-1994
Glycomed Inc., 1994-1996
Ventures Medical, 1989-1996
California State University, Northridge Center for Cancer and Developmental Biology, 1985-1989
Cetus Corporation, 1985-1989
Grace Cancer Drug Center, Roswell Park Memorial Institute 1983-1989
Triton Biosciences, 1985-1989
Smith-Kline Beckman Corp, 1979-1987
NCI-Frederick Cancer Research Center, 1974-1980

Alza Research, 1974-80
University of Hawaii School of Medicine, 1973-1979
Immuno-Diagnostics Systems, 1973-1976

Honors and Awards:

Doctor of Medicine, M.D. (H), University of the Republic of Uruguay, 2015
Yanagimachi Distinguished Lectureship, University of Hawaii School of Medicine, 2012
John Drulle Memorial Lectureship, International Lyme and Associated Diseases Society (ILADS), 2008
Annual Award of the Common Cause Medical Research Foundation (Canada), 2006
Innovative Medicine Award (Canada), 2002
Stephen Paget Award, Metastasis Research Society, 1998
Albert Schweitzer Award (Portugal), 1998
First Norman N. Durham Lectureship, Environmental Institute, OSU, 1996
Indo-American Society for Health & Laboratory Professionals Award, 1996
Distinguished Presentation Award, Third International Cancer Molecular Biology Symposium, 1996
COLONEL (Honorary), U. S. Army Special Forces, 1995
SEAL (Honorary), U.S. Navy Special Forces, 1995
Haskel Visiting Professorship, University of Pennsylvania, 1995
Burroughs Wellcome Medal, Royal Society of Medicine Foundation, London, 1991
Outstanding Faculty Award, The University of Texas Health Science Center at Houston, 1991
U.S. National Cancer Institute U.S.S.R. Scientist Exchange Award for Collaborative Research on Molecular and Genetic Aspects of Tumor Metastasis, 1991
Evan and Marion Helfaer Distinguished Lectureship, The Cancer Center of the Medical College of Wisconsin, 1990
Dean's Teaching Excellence List, The University of Texas Health Science Center at Houston Graduate School of Biomedical Sciences, 1985-1994
Teaching Excellence Award for Best Course, The University of Texas Medical School at Houston, 1990
NCI/NIH Outstanding Investigator Award, 1987
Annual Award of the Japan Histochemical Society, 1976
Eli Nadel Memorial Lecture in Biochemistry, 1983
Rita Ferdinand Memorial Lectureship, 1982
Guy Lipscomb Memorial Lecture in Chemistry, 1980
Upjohn Biology Education Award, 1976
Presidential Award, Electron Microscopy Society of America, 1971

Society Memberships with Offices Held:

American Association for Cancer Research
- Member, Board of Directors, 1985-1988
- Chairman, Rhoades Award Committee, 1987-1988
- Chairman, Nomination Committee, 1985-1988
- Member, Program Committee, 1984-1988
- Member, Local Arrangements Committee, 1991

Metastasis Research Society
- President, 1988-1990

Secretary-Treasurer, 1990-1998
Vice President, 1986-1988
International Association of Chronic Fatigue Syndrome/ME 2014-
Academic Society of Functional Foods in Health and Disease 2015-
American Academy of Environmental Medicine
American College for the Advancement of Medicine
American Society of Biological Chemists, 1975-1985
American Society for Cell Biology, 1970-1980
Biophysical Society, 1972-1980
Electron Microscopy Society of America, 1970-1978

Chairmanship of National and International Conferences:

Co-Chairman, 2016 International Conference on Fibromyalgia and Pain, Philadelphia, PA 2016
Co-Chairman, 18th International Functional Food and Bioactive Compounds in Obesity, Harvard Medical School, Boston, MA 2015
Co-Chairman, 12th International Functional Food and Bioactive Compounds in the Mangement of Chronic Inflammation, UCLA, 2013
Co-Chairman, 11th International Functional Food Components in Health and Disease, Univ. Texas Southwestern Medical School, Dallas, 2012
Co-Chairman, 10th International Functional Food Components in Health and Disease, UC Santa Barbara, 2012
Co-Chairman, 9th International Functional Food Components in Health and Disease, U. San Diego, 2011
Co-Chairman, 2nd International Conference on Integrative Medicine and Women's Health, Los Angeles, 2002
Co-Chairman, IIACR Conference on Invasion and Metastasis, Athens, Greece 2001.
Co-Chairman, Conference on Integrative Medicine and Chronic Illnesses, Anaheim, CA, 2000
Co-Director, NATO Advanced Study Institute, Intermolecular Cross-talk in Tumor Metastasis, Athens, Greece, 1998
Co-Chairman, Keystone Symposium on Molecular and Cellular Biology, Cancer Cell Motility and Invasion, Tammaron, Colorado, 1995
Co-Chairman, Fifth International Congress of the Metastasis Research Society, Bethesda, Maryland, 1994
Co-Chairman, Pezcoller Foundation Symposium on Cell Adhesion Molecules, Roverto, Italy, 1992
Co-Chairman, 43rd MDACC Annual Symposium on Fundamental Cancer Research, Growth Factors and Their Receptors in Cancer: Basic Mechanisms and Therapy, Houston, 1991
Chairman, Third International Congress of the Metastasis Research Society, Bethesda, Maryland, 1990.
Co-Chairman, NCI Workshop on Cancer Cell Biology, Bethesda, Maryland, 1990
Co-Chairman, AACR/BACR/EORTC Conference on The Cell Membrane and Cell Signals as Targets in Cancer Chemotherapy, Cambridge, England, 1989
Co-Chairman, U.S.-Japan Conference on Cancer Cells, Honolulu, Hawaii, 1988
Chairman, UCLA Symposium on Molecular and Cellular Biology, Tumor Progression and Metastasis, Keystone, Colorado, 1987
Co-Chairman, Second International Research Symposium on Cellular Oncology, Occult Nodal Metastasis in Solid Carcinomata, Palm Springs, California, 1985
Co-Chairman, MDACC Annual Symposium on Fundamental Cancer Research, Cancer Invasion and

Metastasis: Biologic and Therapeutic Aspects, Houston, 1983

Co-Chairman, V.A. Medical Center Symposium on New Approaches in Biology, Diagnosis, and Treatment of Cancer, Long Beach, California, 1983

Chairman, UCLA Symposium on Molecular and Cellular Biology, Molecular Biology of Tumors and Potential Clinical Applications, Keystone, Colorado, 1976

Co-Chairman, UCLA Symposium on Molecular and Cellular Biology, Cell Membranes. Squaw Valley, California, 1974

U.S. Congressional Committee and Presidential Commission Testimony

Testimony of Dr. Garth L. Nicolson, House Committee on Government Reform, Subcommittee on National Security, Veterans' Affairs and International Relations, United States House of Representatives, January 24, 2002.

Testimony of Dr. Garth L. Nicolson, House Committee on Veterans' Affairs, Subcommittee on Health, United States House of Representatives, January 24, 2002.

Testimony Of Dr. Garth L. Nicolson, Special Oversight Board For Department Of Defense Investigations Of Gulf War Chemical And Biological Incidents, U. S. Senate Hart Office Building SH-216, November 19, 1998.

Testimony Of Dr. Garth L. Nicolson, House Committee on Veterans' Affairs, Subcommittee on Benefits, United States House of Representatives, July 16, 1998.

Testimony Of Dr. Garth L. Nicolson and Dr. Nancy L. Nicolson, House Committee On Government Reform and Oversight, Subcommittee on Human Resource and Intergovernmental Relations, United States House of Representatives, June 26, 1997.

Testimony of Dr. Garth L. Nicolson and Dr. Nancy L. Nicolson, House Committee On Government Reform And Oversight, Subcommittee on Human Resource and Intergovernmental Relations, United States House of Representatives, April 2, 1996.

Testimony of Garth Nicolson and Nancy L. Nicolson, Mycoplasmal Infections in Gulf War Illnesses, President's Advisory Panel on Gulf War Veterans' Illnesses, Washington D.C., August 14-16, 1995.

Symposia Presentations at National or International Conferences (1987-2016):

December 13, 2016. Tokyo, Japan. Special Lecture at the Institute for Medical Research, University of Tokyo. Membrane Structure and the use of Membrane Lipid Replacement for repairing membrane damage and reducing symptoms in chronic diseases.

December 10-11, Osaka, Japan. International Conference on Hydrogen Medicine. Invited Keynote Speaker: Hydrogen medicine in health and disease.

November 4-6, 2016. Honolulu, Hawaii. Conference on Hydrogen Medicine. Invited Keynote Speaker. Hydrogen medicine and use of hydrogenized water for chronic illnesses.

June 15-16, 2016. Philadelphia, PA. International Conference on Fibromyalgia and Chronic Pain. Co-Chairman and Invited Keynote Speaker: Membrane Lipid Replacement with glycerolphospholipids to restore mitochondrial function and reduce fatigue and pain in CFS/ME and Fibromyalgia patients.

April 9-10, 2016. Seattle, Washington. Naturally Plus Regional Conference on Hydrogen Medicine. Invited Keynote Speaker: Hydrogen medicine and the use of hydrogenized water for chronic health conditions.

November 30-December 2, 2015. San Francisco, CA. International Conference on Lipid Science and Technology. Invited Keynote Speaker: Lipid Replacement Therapy for enhancing mitochondrial function and improving chronic disease symptoms and aging.

October 17-18, 2015. Montevideo, Uruguay. Faculty of Medicine, University of the Republic of Uruguay. Special Lectures: (1) Cell membranes and the Fluid-Mosaic Membrane model and (2) Chronic infections in fatiguing illnesses, neurodegenerative and neurobehavioral diseases.

October 15-16, 2015. Montevideo, Uruguay. Uruguayan Conference of Biochemistry and Molecular Biology. Keynote Speaker: The Fluid-Mosaic Model of membrane structure and it's importance in health and chronic disease.

September 15-18, 2015. Boston, MA, Harvard Medical School. 18th International Conference on Functional Foods and Bioactive Compounds in Health and Disease. Invited Speaker: Lipid Replacement with a membrane glycerolphospholipid formulation: enhancement of human spermatozoa motility and viability.

July 25, 2015. Las Vegas, NV. Annual Meeting of Naturally Plus USA. Invited Keynote Speaker: The science and uses of hydrogen water.

May 30-31, 2015. Oslo, Norway. International Norvect Conference. Invited Speaker: (1) Chronic bacterial infections in neurodegenerative and neurobehavioral diseases and other chronic illnesses and (2) Loss of mitochondrial function in chronic illnesses and infectious diseases: treatment with Lipid Replacement Therapy.

May 8-10, 2015. Augsburg, Germany. International Lyme and Associated Diseases Society Conference. Invited Speaker: Lipid Replacement therapy with NTFactor and ATP Fuel: reduction of fatigue and restoration of mitochondrial function in Lyme and associated diseases.

November 18-19, 2014. San Diego, CA. International Conference on Functional Foods and Bioactive Compounds in Health and Disease. Invited Speaker: Update of the Fluid-Mosaic Model of membrane structure: it's importance in health and chronic disease.

July 18-20, 2014. Quito, Ecuador. International Conference on Membranes and Health. Invited Keynote Speaker: The Fluid—Mosaic Model of Membrane Structure.

June 15-16, 2014. Madrid, Spain. Lipopharma meeting on Lipids in Medicine. Invited Participant: Lipid Replacement Therapy in chronic illnesses.

May 28-30, 2014. San Francisco, CA. Institute for Functional Medicine Society. Invited Speaker: Lipid Replacement Therapy with NTFactor and ATP Fuel: reduction of fatigue and restoration of mitochondrial function in chronic diseases.

May 2-4, 2014. Bellevue, WA. Klinghardt Academy--Integrative Care Conference, Invited Speaker**:** Lyme-Associated Infections in Neurodegenerative, Neurobehavioral and Fatiguing Illnesses: Mitochondrial Dysfunction and Lipid Replacement Therapy.

March 21-23, 2014. San Francisco, CA. International Association of Chronic Fatigue Syndrome/ME. Invited Presenter: Lipid Replacement Therapy using NTFactor, NADH and CoQ10 significantly reduces fatigue improves mitochondrial function in long-term, intractable chronic fatiguing illnesses.

January 24-25, Costa Mesa, CA. 3rd Annual IV Therapies Integrative Oncology Conference. Invited Speaker: September 25-29, 2013. Portland, OR. International Conference on Human Nutrition and Functional Medicine. Invited Speaker: The role of chronic infections in mitochondrial dysfunction and the importance of combined antimicrobial therapy and nutritional interventions.

September 16-20, 2013. Minneapolis, MN. Institute for Functional Medicine, Applying Functional Medicine in Clinical Practice. Invited Speaker: Lipid replacement and mitochondrial function.

August 20-22, 2013. UCLA, Los Angeles, CA. 14th International Conference on Functional Foods and Bioactive Compounds in the Management of Inflammation. Invited Speaker: Lipid Replacement Therapy: a Functional Food Approach for Reducing Fatigue and the Adverse Effects of Antimicrobial Therapy in Fatiguing Illnesses and Chronic Lyme Disease.

June 6-10, 2013, Melbourne, Australia. 10th International Congress on Natural Medicine. Invited Keynote Speaker: The role of chronic bacterial and viral infections in neurodegenerative, neurobehavioral and other chronic diseases. 2nd Presentation: Lipid Replacement Therapy: a functional food approach to reduce fatigue and oxidative damage and restore mitochondrial function in chronic illnesses, infections and cancer.

May 12-15, 2013, Windsor, Ontario, Canada. 10th Annual Natural Health Products Research Conference. Plenary Speaker: Blood homocysteine levels are significantly reduced with Lipid Replacement Therapy: relevance to patients with chronic diseases.

April 25-26, 2013, Scottsdale, AZ. Integrative Cancer Medicine: Clinical Applications of Cancer Strategies. Special Speaker: Cancer-associated fatigue and nutraceutical approaches for reducing cancer-associated fatigue and the adverse effects of cancer therapy while restoring mitochondrial function.

April 18-20, 2013, Dallas, TX. Best Answer for Cancer Annual Conference. Invited Speaker: Cancer-associated fatigue and cancer treatment fatigue and treatment with natural medicine.

February 16-17, 2013, Phoenix, AZ. Oncology Natural Physicians Conference (OncNPC). Invited Speaker: Lipid Replacement Therapy: a functional food approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy.

December 13-15, 2012. Las Vegas, NV. 20th World Congress on Anti-Aging and Regenerative Medicine. Invited Symposium Speaker: Lipid Replacement Therapy: an anti-aging membrane glycophospholipid formulation with NADH and CoQ10, significantly reduces fatigue in long-term intractable chronic fatiguing illnesses and chronic Lyme disease.

October 6, 2012. London, England, UK. Royal Society of Medicine Conference. Invited Keynote Speaker: Mitochondrial repair—Resolution of fatigue.

August 21-23, 2012. San Diego, CA. 11th International Functional Foods and Chronic Inflammation Conference. Session Chair and Invited Speaker: Blood homocysteine leels are significantly reduced with a glycophospholipid formulation plus vitamin B-complex: a retrospective study in older subjects.

May 22-25, 2012. Kelowna, British Columbia, Canada. 9th Natural Health Products Research Conference. Invited Keynote Speaker: Lipid replacement therapy: a functional food approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy. Also, an invited presentation was presented: Lipid Replacement Therapy, a glycophospholipid formulation with NTFactor, NADH and CoQ10 reduces fatigue in long-term intractable chronic fatiguing illnesses and chronic Lyme Disease.

March 13-15, 2012. Santa Barbara, CA. 10th International Functional Foods and Bioactive Compounds Conference. Invited Speaker: Lipid Replacement Therapy using a glycophospholipid formulation with NTFactor, NADH and CoQ10 reduces fatigue in long-term intractable chronic fatiguing illnesses and chronic Lyme Disease.

March 7, 2012. Honolulu, Hawaii. University of Hawaii John A. Burns School of Medicine. Yanagimachi Destinguished Lecture: Reducing cancer-associated fatigue and the adverse effects of cancer therapy using Lipid Replacement Therapy.

October 28-30, 2011. Toronto, Ontario, Canada. 2011 Annual Conference of the International Lyme and Associated Diseases Society. Invited Special Speaker: Recent clinical trials using Lipid Replacement Therapy to improve mitochondrial function and reduce fatigue for Lyme Disease and other chronic illnesses.

August 16, 2011. San Diego, CA. 9th International Functional Food Components in Health and Disease Conference. Invited Speaker: Lipid Replacement Therapy functional food formulation with NTFactor for reducing weight, girth, body mass, appetite, cravings for sweats and fatigue while improving cardiovascular blood lipid profiles.

April 29, 2011. Bellevue, WA. 18th International Symposium on Functional Medicine: Emerging infections in the 21st Century-Terrain, Tolerance and Susceptibility. Invited Speaker: Mycoplasma and other chronic infections in neurodegenerative, neurobehavioral and fatiguing illnesses.

April 17, 2011. Bologna, Italy. 6th International Academy on Nutrition and Aging. Invited Speaker: Lipid Replacement Therapy: a nutraceutical approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy.

April 8, 2011. Minneapolis, MN. iMosaic Combined AAEM, ACAM, AHMA, ICIM Conference. Invited Speaker: Lipid Replacement Therapy with a glycophospholipid-antioxidant-vitamin formulation reduces fatigue within one week in chronic fatigued patients: implications for neurodegenerative, neurobehavioral and fatiguing illnesses.

March 17, 2011. Las Vegas, NV. International Functional Foods in Health and Chronic Diseases Conference. Keynote Speaker: Lipid Replacement Therapy: a functional food approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy.

October 15, 2010. New Jersey City, NJ. International Lyme and Associated Diseases Society Conference. Invited Special Lecturer: Lyme-associated infections in neurodegenerative and neurobehavioral disorders, oxidative stress and the loss of mitochondrial function: using nutracuticals to reverse mitochondrial damage and increase cellular energy.

October 10, 2010. Los Angeles, CA. 9th California Naturopathic Doctors Association Conference. Invited Special Lecture: Restoring mitochondrial function—The key to improving energy output.

October 3, 2010. Montreal, Quebec, Canada. 2nd International Cancer Fatigue Symposium. Invited Speaker: Lipid Replacement Therapy: a nutraceutical approach for reducing cancer-associated fatigue and the adverse effects of cancer therapy.

September 24, 2010. Buffalo, NY. 53rd Conference of the International College of Integrated Medicine. Invited Special Speaker: Chronic bacterial and viral infections in neurodegenerative and neurobehavioral diseases: Why physicians are not up to speed on chronic infections.

July 26, 2010. Santa Ana, NM. 5th Congress of the International Academy of Nutrition and Aging. Invited Speaker: Lipid replacement therapy with a phospholipids-antioxidant-vitamin formulation significantly reduces fatigue within one week in chronic fatigued patients.

July 19, 2010. Bethesda, MD. National Institutes of Health Conference on Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococccal Infections. Invited Speaker: The role of Mycoplasmal Infections in neurodegenerative and neurobehavioral disorders.

October 9-11, 2009. Seattle, WA. Lyme and Associated Diseases Conference. Invited Speaker: Lyme Disease Co-Infections, Neurodegenerative and Neurobehavioral Diseases, Oxidative Damage and Lipid Replacement of Damaged Cellular Membranes.

May 28-29, 2009. London, England, UK. International ME/CFS Conference. Keynote Speaker: Similar infections found in ME/CFS and neurodegenerative and neurobehavioral diseases.

October 18-19, 2008. San Francisco, CA. International Lyme and Associated Diseases Annual Conference. John Drulle Memorial Lecture: Lyme co-infections in neurodegenerative and neurobehavioral diseases.

September 28-30, 2008. Cazadero, CA. Ratna Ling CFIDS Symposium. Invited Speaker: CFS and ASD: comparisons and treatments.

August 29-31, 2008. Sudbury, Ontario, Canada. Common Cause Medical Research Foundation Conference. Keynote Speaker: Chronic infections in neurodegenerative diseases: their origins.

July 23-25, 2008. Indian Wells, CA. Lyme-Induced Autism Foundation Physician Meeting. Invited Speaker: Chronic infections in Autism Spectrum Disorders.

January 27-28, 2008. San Diego, CA. Lyme-Induced Autism Foundation Workshop. Invited

Speaker: Bacterial and viral infections in Autism Spectrum Disorders.

October 28-29, 2007. Santa Cruz, CA. Conference sponsored by Dr. Stan Montieth. Invited Keynote Speaker: Chronic infections in neurodegenerative and autoimmune diseases.

October 20-21, 2007. Houston, TX. 2007 Health Expo. Invited Symposium Speaker: Role of chronic infections in neurodegenerative diseases and fatiguing illnesses.

October 10-11, 2007. Irvine, CA. DAN Conference. Invited Speaker: Lyme Disease, other infections and autism.

August 8-12, 2007. Cazadero, CA. Ratna Ling CFIDS Symposium. Invited Speaker: Transmission of CFS to immediate family members and role of Lyme Disease.

July 3-6, 2007. Montecatini, Tuscany, Italy. 19th American Biologics Integrative Medicine Symposium. Invited Speaker: Evidence for chronic co-infections in the blood of Autism Spectrum Disorders.

June 23-24, 2007. Irvine, CA. Lyme Disease in Autism Conference. Invited Speaker: Chronic co-infections in Lyme Disease and Autistic Spectrum Disorders.

April 19-20, 2007. Ferrara, Italy. International Conference on Chronic Chlamydia and Mycoplasma Human Infections. Invited Speaker: Chronic co-infections (Mycoplasma, Chlamydia, Borrelia, Brucella) in various human illnesses.

March 24-25, 2007. Dallas, TX. Lay Institute Symposium. Invited Speaker: Biological Warfare and the ethics of development and testing biowarfare agents.

January 27-28, 2007. San Diego, CA. Lyme-Induced Autism Workshop. Invited Speaker: Co-infections in Lyme Disease and Autism Spectrum Disorders.

January 10-12, 2007. Ft. Lauderdale, FL. Eighth International Association of Chronic Fatigue Syndrome Conference. Invited Speaker: (1) Chronic bacterial co-infections in Chronic Fatigue Syndrome and Chronic Fatigue Syndrome patients subsequently diagnosed with Lyme Disease. (2) Lipid Replacement Therapy for restoring mitochondrial function in fatiguing illnesses and Chronic Fatigue Syndrome.

November 17-19, 2006. Sudbury, Ontario, Canada. Common Cause Medical Research Foundation. (1) Invited Keynote Speaker: Degenerative diseases and the role of chronic bacterial and viral infections. (2) Invited Speaker: Autistic Spectrum Disorders: role of chronic bacterial and viral infections.

October 26-29, 2006. Hilton Head, SC. American Academy of Environmental Medicine Annual Conference. Invited Speaker: Chronic co-infections in Autistic Spectrum Disorders: diagnosis and treatment.

July 1-5, 2006. Corfu, Greece. 18th American Biologics International Symposium. Invited Speaker: Role of multiple co-infections in Lyme Diseases: diagnosis and treatment.

June 8-11, 2006. Dallas, TX. 24th Symposium on Man and his Environment. Invited Speaker: Lipid replacement and antioxidant therapy for restoring mitochondrial function in Chronic Fatigue Syndrome and other fatiguing illnesses.

May 4-6, 2006. Richardson, TX. American College for Advancement in Medicine. Invited Speaker: Diagnosis and treatment of multiple co-infections in Lyme Disease.

October 29-31, 2005. Philadelphia, PA. International Lyme and Associated Diseases Conference. Invited Symposium Speaker: Role of mycoplasmal co-infections in Lyme Disease.

September 6-9, 2005. Dubrovnik, Croatia. 4th European-American Forensic Medicine Conference. Invited Symposium Speaker: Chronic infections in Gulf War veterans and immediate family members: relationship to Gulf War Syndrome.

September 3-4, 2005. Houston, TX. Center for Autistic Spectrum Disorders Symposium. Invited Speaker: Treating multiple chronic bacterial and viral infections in Autistic Spectrum Disorder patients.

July 10, 2005. Philadelphia, PA. Center for Autistic Spectrum Disorders Physicians Workshop. Invited Speaker: Role of chronic infections in Autistic Spectrum Disorders.

May 21-24, 2005. Budapest, Hungary. Hungarian Academy of Sciences Meeting on Membranes. (1) Invited Symposium Speaker: Breast cancer progression and metastasis-associated genes. (2) Invited Speaker: Lipid replacement therapy and mitochondrial function.

May 7-8, 2005. Unionville, CT. Lyme Disease Support Conference. Invited Speaker: Role of intracellular co-infections in Lyme Disease.

May 6, 2005. Hamilton, NJ. Medical Diagnostics Laboratories. Invited Speaker: Role of chronic bacterial and viral infections in fatiguing and autoimmune illnesses.

April 16-19, 2005. Istanbul, Turkey. Congress of Molecular Medicine. Invited Symposium Speaker: Cancer metastasis-associated human *MTA1* gene and its role in dacylation and signal transduction in epithelial cancer cells.

October 10-13, 2004. Phoenix, AZ. American Academy of Environmental Medicine. (1) Invited Speaker: Chronic co-infections in Chronic Fatigue Syndrome and other fatiguing illnesses. (2) Lipid Replacement Therapy, fatigue and mitochondrial function.

April 15-17, 2004. Kansas City, KS. American Academy of Environmental Medicine. Invited Speaker: Chronic bacterial and viral co-infections in Chronic Fatigue and Fibromyalgia Syndromes and Gulf War Illnesses.

March 3-4, 2004. Baton Rouge, LA. Chancellors Distinguished Lecture: Cancer progression and metastasis: role of genetics, growth factors and infections.

Febuary 12-15, 2004. Munster, Germany. Neurobiology of the Skin. Invited Symposium Speaker: Role of neurotrophins in regulating metastasis of melanoma to brain.

October 30-November 2, 2003. Phoenix, AZ. American Academy of Environmental Medicine Annual Meeting. Invited Symposium Speaker: (1) Diagnosis and treatment of multiple, chronic bacterial and viral infections in Chronic Fatigue Syndrome, Fibromyalgia Syndrome and Gulf War Illnesses; (2) Nutritional support restores mitochondrial function and reduces moderately severe fatigue in aged subjects.

August 22-23, 2003. Vancouver, BC, Canada. Common Cause Foundation Annual Meeting. Invited Speaker: Mycoplasmal, Chlamydial and Herpes Virus infections in chronic illnesses.

July 24-26, 2003. Kansas City, MO. American Academy of Craniofacial Pain Annual Meeting. Invited Symposium Speaker: Chronic infections in fatiguing and autoimmune illnesses.

March 18, 2003. San Diego, CA. San Diego VA Medical Center. Invited seminar speaker: Gulf War Illnesses: role of chronic infections and multiple chemical exposures.

December 6-8, 2002. Belview, WA. Neurological Disease Conference. Invited Speaker: Co-Infections in Borrelia-Lyme Disease.

October 24, 2002. San Diego, CA. Defeat Autism Now Workshop. Invited Speaker: Chronic infections in Autism and ADHD patients.

September 18-20, 2002. Niagara Falls, Ont., Canada. Institute for Integrative Medicine Meeting. Invited Symposia Speaker: Mitochondrial function in fatiguing illnesses: Diagnosis and treatment.

September 20-22, 2002. Chicago, IL. Metastasis Research Society Congress. Session presentation: The role of the *MTA1* gene in metastasis.

June 27-July 6, 2002. Rhodes, Greece. 13th Annual American Biologics International Conference on Integrative Medicine. Invited Symposia Speaker: Biological Warfare agents: their identification and treatment.

May 3-5, 2002. Orlando, FL. National Fibromyalgia Conference. Invited Speaker: Role of chronic bacterial and viral infections in Fibromyalgia Syndrome.

April 3-10, 2002. Sydney, Australia. Mind of a Child Conference. Invited Symposia Speaker:

Chronic infections in Autism patients: Identification and treatment.

March 8-10, 2002. Carmel, CA. Annual Meeting of the Academy of Biological Dentistry. Invited Speaker: Chronic bacterial and viral infections in chronic illnesses.

January 28, 2002. Arlington, VA. Joint Intelligence Operatives, Fort Myer. Gulf War Illnesses and related syndromes caused by chronic infections.

January 24, 2002. Washington DC. House of Representatives, U.S. Congress. Invited testimony on Gulf War veterans' illnesses.

December 6, 2001. Munich, Germany. International Conference on Staging of Cancer. Keynote Speaker: History of Cancer Research on Membranes, Invasion and Metastasis.

December 1, 2001. Sydney, Australia. 3rd International Conference on Chronic Fatigue Syndrome. Keynote Speaker: Multiple Co-Infections in Chronic Fatigue Syndrome: Diagnosis and Treatment.

November 15, 2001. Long Beach, CA. Biannual Meeting of the American Academy for Advancement in Medicine. Invited Workshop Speaker: Diagnosing and Treating Chronic Infections in Chronic Illnesses.

June 30, 2001. Malta. 12th Annual American Biologics Conference on Integrative Medicine. Invited Speaker: Chronic Infections in Autoimmune Diseases.

June 14-17, Athens, Greece. International Institute for Anticancer Research Conference. Conference Chairman and Speaker: MTA1 Gene and Breast Cancer Progression.

May 18, 2001. Ottawa, Quebec. Environmental Illness Soc. of Canada Conference. Invited Speaker: Role of Chronic Intracellular Infections in Chronic Illnesses.

May 15, 2001. Aylmer, Quebec. Canadian Dept. of National Defense Symposium on Chemical Sensitivity. Invited Speaker: Diagnosis and Treatment of Mycoplasmal and Chlamydial Infections.

November 11, 2000. Anaheim, CA. First Annual Conference on Integrative Medicine, Invited Speaker and Conference Chairman: Integrative Medicine Approaches to Chronic Illnesses.

October 28, 2000. Salt Lake City, UT. American Academy for Advancement in Medicine, Semi-Annual Meeting. Invited Symposium Speaker: Intracellular Bacterial Infections: Diagnosis and Treatment.

August 18, 2000. Rochester, New York. Common Cause Foundation Meeting. Keynote Speaker: Chronic Infections in Fatiguing and Autoimmune Illnesses.

September 16, 2000. Herdon, VA. National Gulf War Conference. Invited Speaker: Gulf War Illnesses and the Role of Chronic Infections.

June 9, 2000. Dallas, Texas. American Academy of Environmental Medicine. Invited Symposium Lecture: Chronic Infections in Environmental Health.

May 23-26, 2nd Congress of Oncologists of the CIS. Kiev, Ukraine. Plenary Lecture: Genetics of Breast Cancer Invasion and Metastasis. Session Chairman, Invited Lecture: Chronic Infections in Cancer, Fatiguing Illnesses and Autoimmune Diseases.

April 6, 2000. Kuwait City, Kuwait. Ministry of Health of Kuwait. Invited Symposium Lecture: Gulf War Illnesses and the Role of Chronic Infections in Fatiguing and Autoimmune Illnesses.

March 3-5, 2000. Carmel, CA. American Academy of Biological Dentistry Annual Meeting. Invited Symposia Speaker. Role of Chronic Infections in Oral and Systemic Diseases.

September 20, 1999. Las Vegas, Nevada. National Gulf War Resource Center Conference. Invited symposia speaker: Chronic infections in Gulf War Illnesses.

September 10, 1999. Brussels, Belgium. Second International Congress on Chronic Fatigue Syndrome. Invited symposia speaker: Chronic infections in Chronic Fatigue Illnesses and their Treatment.

August 21, 1999. Gananoque, Ontario, Canada. Common Cause Foundation International

Symposia. Invited symposia speaker: Chronic infections in CFS, FMS and Gulf War Illness.
July 26, 1999. Ottawa, Ontario, Canada. Second International Symposia on Breast Cancer. Invited symposia speaker: Breast cancer-associated genes and their gene products.
July 2, 1999. Vienna, Austria. American Biologics 11th International Symposium on Integrative Medicine. Invited symposia speaker: Chronic infections and Their Treatment
May 29, 1999. Washington DC. Memorial Day Veterans Health Conference. Invited symposia speaker: Chronic infections and Their Treatment in Gulf War Illnesses.
February 26, 1999. Sydney, Australia. Alison Hunter Memorial Foundation International Meeting on Chronic Illnesses. Invited symposia speaker: Chronic infections in CFS, FMS and Gulf War Illness.
October 8, 1998. San Diego, CA. International Congress of the Metastasis Research Society. Stephen Paget Award Lecture: Cancer metastasis-associated genes and cancer progression.
October 6, 1998. New Orleans, LA. September 10, 1998. American College of Occupational and Preventive Medicine. Invited symposia speaker: Chronic infections in CFS and Fibromyalgia Syndrome.
September 11, 1998. Oxford, England. Royal Society of General Practitioners. Invited symposia speaker: Mycoplasmas, Gulf War Syndrome and CFS/ME.
July 24, 1998. Athens, Greece. NATO Conference on Intermolecular Cross-talk in Tumor Metastasis. Conference Co-organizer and speaker: Metastasis-associated genes and breast cancer metastasis and Organ microvessel endothelial cells: secretion of organ-specific motility and growth factors.
June 27, 1998. Istanbul, Turkey. American Biologics International Conference. Invited symposia speaker. Role of chronic infections in Gulf War Illness, Chronic Fatigue and Fibromyalgia Syndromes.
April 18-19, 1998. Riverside, CA. The Arthritis Institute Conference on Antibiotic Treatment for Rheumatic Diseases. Invited symposia speaker: Mycoplasmal infections in chronic diseases.
February 27-March 1, 1998. San Francisco, CA. Fourth Annual Symposium on Orthomolecular Medicine. Invited symposia speaker: Gulf War vaccines and disease.
February 10-12, 1998. Sydney, Australia. Chronic Fatigue Syndrome 98 International Conference. Invited symposia speaker: Mycoplasmas, Gulf War Syndrome and CFS.
January 16-18, 1998. Pasadena, CA. National Health Federation. Invited symposia speaker: Chronic infections in CFS and Fibromyalgia Syndrome.
November 16, 1997. Santa Ynez Valley CFIDS Association. Invited symposium speaker: Chronic infections in Fibromyalgia/Chronic Fatigue Syndrome.
October 16, 1997. Los Angeles, CA. Granada Forum. Invited symposium speaker: Fibromyalgia/Chronic Fatigue Syndrome.
September 29-30, 1997. Indianapolis, IN. Advances in Enzyme Control in Normal and Neoplastic Tissues. Invited symposium speaker: Role of heparanase in cancer invasion and metastasis.
September 20-21, 1997. Sudbury, Ont., Canada. Invited symposium speaker: Chronic infections in GWI/ Fibromyalgia/Chronic Fatigue Syndrome.
August 30-31, 1997. Los Angeles, CA. Cancer Control Convention. Invited symposium speaker: Chronic infections in Fibromyalgia/Chronic Fatigue Syndrome.
June 25-28, 1997. Lago Maggore, Italy. International Integrative Medicine Congress. Invited symposium speaker: Chronic infections in Gulf War Illness/Fibromyalgia/Chronic Fatigue Syndrome.
June 16-17, San Francisco, CA. Neurocognitive Disorders and Molecular Genetics. Invited symposium speaker: Chronic infections in Fibromyalgia/Chronic Fatigue Syndrome.
April 17, 1997. Oceanside, CA. San Diego County CFIDS Association. Invited symposium speaker:

Chronic infections in Fibromyalgia/Chronic Fatigue Syndrome.

April 24-26, 1997. Tampa, FL. American College for Advancement in Medicine. Invited symposium speaker: Role of chronic infections in Gulf War Illness/Chronic Fatigue Syndrome.

April 12-16, 1996. San Diego, CA. American Society for Cancer Research Meeting. Invited symposium speaker: Cancer metastasis-associated genes.

February 7-9, 1997. Seattle, WA. Fibromyalgia International Conference. Invited symposium speaker: Chronic infections in Fibromyalgia/Chronic Fatigue Syndrome.

January 30, 1997. Santa Barbara, CA. Santa Barbara Medical Society, Invited symposium speaker: Gulf War Illness/Chronic Fatigue Syndrome: role of chronic infections.

.December 14, 1996. Le Puente, CA. Indo-American Society for Health and Laboratory Professionals. Invited speaker: Chronic infections associated with Chronic Fatigue Syndrome and Gulf War Illness.

November 14-16, 1996. Cairo, Egypt. 4th International Cancer Molecular Biology Symposium. Invited symposium speaker: Cancer metastasis-associated genes.

October 26-28, 1996. Nice, France. 3rd International Symposium on Predictive Oncology and Therapy. Invited speaker and session chairman.

September 7-11, 1996. Metastasis Research Society Congress. Invited Keynote Speaker: Breast cancer progression and the role of quantitative genomic changes and quantitative changes in gene expression.

July 20-24, 1996. Snowmass, CO. 45th Symposium on the Biology of the Skin. Invited symposium speaker: Neurotrophins and malignant melanoma invasion and metastasis.

June 5, 1996. Dallas, TX. Institute for Environmental Medicine. Invited symposium speaker: Mycoplasmal infections in Gulf War Illness-CFIDS.

April 28-May 2, 1996. Houston, TX. 9th International Congress on Breast Disease. Invited symposium speaker: Breast cancer metastasis genes and oncogenes and their role in tumor progression, cellular communication and metastasis.

March 24-27, 1996. San Francisco, CA. American Cancer Society Annual Science Writers Symposium. Invited speaker: Role of cancer metastasis metastasis-associated genes in the progression of cancer to the metastatic state.

March 7-8, 1996. New Orleans, LA. 19th Annual Interdisciplinary Cancer Research Workshop. Keynote speaker: Breast cancer-associated genes and regulation of tumor progression.

March 1-2, 1996. Houston, TX. Endrocrine and Breast Diseases International Congress. Invited speaker: Breast cancer metastasis and gene expression.

February 27, 1996. San Antonio, TX. Presidential Advisory Commission on Gulf War Veterans' Illnesses. Invited speaker: Mycoplasmal infections in Gulf War Illnesses.

February 15, 1996. Oklahoma City, OK. 1st Norman Durham Lecturer, Environmental Institute, Oklahoma State University.

January 15-17, 1996. Bethesda, MD. U.S.-Japan Cooperative Research Program on the Role of Cytokines in Cancer. Invited speaker: Mechanism of interferon-a inhibition of CML.

January 12, 1996. Kansas City, MO. Presidential Advisory Commission on Gulf War Veterans' Illnesses. Invited speaker: Mycoplasmal infections in Gulf War Illnesses.

November 23-26, 1995. London, England. Annual Meeting of the British Society of General Practitioners. Invited symposium speaker: Persian Gulf War Illness: role of mycoplasmal infections.

November 10-16, 1995. Alexandria, Egypt. Third International Cancer Molecular Biology Symposium. Invited symposium speaker: Cancer metastasis-associated genes.

November 1-5, 1995. Schwarzwald Titisee, Germany. International Titisee Conference on Tumor Angiogenesis. Invited speaker: Paracrine growth and motility factors from microvessel

endothelial cells stimulate metastasis.

October 1-5, 1995. Terrigal, New South Wales, Australia. 19th Annual Conference of the Connective Tissue Society. Keynote Speaker: Role of trophic factors in stimulating metastatic cell matrix invasion and degradative enzymes.

June 25-28, 1995. Kansis City, MO. Sixth Meeting of the Pan American Society for Pigment Cell Research. Keynote Address: Role of neurotrophins and paracrine growth factors in brain metastasis of melanoma.

March 18-22, 1995. Toronto, Canada. American Association for Cancer Research. Invited symposium speaker. The *mta1* gene and breast cancer metastasis.

January 15-18, 1995. Durango, Colorado. Keystone Symposium on Cancer Cell Invasion and Motility. Invited symposium speaker: Organ microvessel endothelial cells: role in cancer cell invasion and growth.

December 7-8, 1995. Dearborn, Michigan. Preuss Foundation Annual Meeting. Invited symposium speaker: Role of neurotrophins in brain invasion and metastasis.

December 2-5, 1994. Keystone, Colorado. Keystone Symposia on Cancer. Invited symposium speaker: Paracrine motility factors and metastasis.

October 30-November 5, 1994. New Delhi, India. International Cancer Congress. Invited Symposium Chairman and Speaker: Membranes of metastatic cells.

October 25-26, 1994. Munster, Germany. Symposium on Gene Diagnosis of Cancer. Invited symposium speaker. Genes related to breast cancer metastasis.

October 9-12, 1994. Vienna, Austria. Annual Meeting of German and Austrian Societies of Haematology and Oncology. Invited symposium speaker: Molecular properties of metastatic cells.

June 10-12, 1994. Mexico City, Mexico. 130th Anniversary of the Mexican National Academy of Medicine. Invited symposium speaker: Metastasis of tumors to brain: molecular mechanisms.

March 28-April 1, 1994. Tokyo, Japan. Annual Meeting of the Japanese Pharmaceutical Society. Invited symposium speaker: Brain Metastasis: molecular mechanisms.

February 17-20, 1994. Houston, Texas. Annual Meeting of the Radiation Therapy Oncology Group. Invited symposium speaker: Metastasis: molecular mechanisms of invasion and metastasis.

February 11, 1994. Detroit, Michigan. Distinguish Faculty Lecture of Wayne State University. Invited speaker: Molecular mechanisms of cancer metastasis.

January 31-February 5, 1994. Big Sky, Montana. AACR Special Conference on the Molecular Genetics of Tumor Progression and Metastasis. Invited speaker: Role of neurotrophins and paracrine factors in brain cancer metastasis.

January 14, 1994. Miami, Florida. University of Maimi School of Medicine. Sigma Xi Distinguished Lecture: Tumor microenvironment and metastasis to specific sites-Molecular mechanisms.

December 2-5, 1993. Houston, Texas. Society for Basic Urological Research. Invited speaker: Molecular mechanisms of cancer metastasis.

November 24-26, 1993. Cairo, Egypt. Second International Cancer Molecular Biology Symposium. Invited symposium speaker: Cancer metastasis: Role of specific tumor cell and host properties in metastasis and identification of genes associated with breast cancer metastasis.

November 4-7, 1993. Houston, Texas. Thirty-Seventh Annual Clinical Conference. Invited symposium speaker: Cancer metastasis.

October 19-22, 1993. Potsdam, Germany. Schering Research Foundation Symposium. Invited speaker: Tumor metastasis and host microenvironment.

July 15-16, 1993. Glasgow, Scotland. Cancer Research Campaign Review of Metastasis Research.

Invited speaker: Interactions of metastasis with host tissue.

March 6, 1993. San Francisco, California. Twenty-eighth Annual San Francisco Cancer Symposium. Invited symposium speaker: The Mechanisms of Metastasis: Current Concepts--Understanding and Predicting Tumor Spread.

December 9-10, 1992. San Antonio, Texas. Fifteenth Annual San Antonio Breast Cancer Symposium. Invited symposium speaker: Breast Cancer Metastasis: Role of Microenvironmental Signals at Primary and Secondary Sites.

Novermber 20, 1992. Taegu, Korea. Molecular Medicine of Cancer Symposium. Invited symposium speaker: Organ Specificity of Cancer Metastasis: Role of Specific Tumor Cell Properties and Host Paracrine Motility Factors, Paracrine Growth Factors and other Cytokines in Metastasis to Specific Sites.

September 1-4, 1992. Paris, France. Fourth International Congress of the Metastasis Research Society. Invited symposium speaker: Organ Specificity of Cancer Metastasis: Role of Specific Tumor Cell Properties and Host Paracrine Motility Factors, Paracrine Growth Factors and other Cytokines.

June 26, 1992. Rovereto, Italy. Pezcoller Foundation's Fourth International Symposium on Cell Adhesion Molecules. Invited speaker, Session V: Endothelial Cell Adhesion in Invasion and Metastasis.

June 20, 1992. Innsbruck, Austria. University of Innsbruck. Invited speaker: The Role of Adhesion Components and Paracrine Growth Factors in Metastasis to Specific Sites.

June 16, 1992. Milan, Italy. Ares-Serono Symposium on Heterogeneity of Cancer Cells. Invited plenary speaker: Heterogeneity of Metastases.

May 22, 1992. Duarte, California. City of Hope 1992 Distinguished Visiting Lecturer Series: Organ Specificity of Metastasis: Role of Specific Adhesion, Invasion and Paracrine Growth Factors.

May 20, 1992. San Diego, California. Eighty-Third Annual Meeting of the American Association for Cancer Research. Invited symposia speaker, Metastasis and the Microenvironment Session: Purification and Characterization of Migration-stimulating Factor Secreted by Mouse Hepatic Sinusoidal Endothelial Cells.

April 23-24, 1992. Memphis, Tennessee. University of Tennessee. The Baptist Memorial Health Care Foundation Forum on Cancer Research: The Molecular Basis for Cancer Prevention. Invited symposia speaker: Organ specificity of cancer metastasis: Role of specific tumor cell properties and host cytokines.

March 15, 1992. New York, New York. Society of Surgical Oncology 45th Annual Cancer Symposium. Invited symposia speaker: Paracrine growth factors and metastasis.

Feburary 9-13, 1992. Houston, Texas. ASBMB/Biophysical Society Meeting.

January 26-Feburary 2, 1992. Keystone, Colorado. Keystone Symposium. Invited speaker: Paracrine Growth Factors.

January 22-24, 1992. Atlanta, Georgia. American Cancer Society. Invited symposia speaker: Invasion and metastasis.

December 9, 1991. Dallas, Texas. American Academy of Dermatology's 50th Annual Meeting. Invited symposia speaker: Mechanisms of invasion and metastasis of malignant melanoma.

November 7, 1991. Berlin, Germany. Schering AG West Germany. Invited speaker series: Role of Adhesion Components, Motility Factors and Paracrine Growth Factors in Cancer Metastasis.

October 30-November 6, 1991. Moscow, U.S.S.R. All Union Cancer Center, U.S.S.R., Moscow. Visiting professor and lecturer: Tumor Invasion and Metastasis: Role of Endothelial Cell Adhesion and Degradative Enzymes and Organ Preference of Tumor Metastasis: Paracrine and Autocrine Organ Growth and Motility Molecules.

October 28-30, 1991. Bonn, Germany. International Meeting on Metastasis: Basic Research and Clinical Applications. Invited speaker: Integrin and Non-integrin Receptors and Paracrine Growth Factors in Organ Preference of Metastasis.

October 2, 1991. Dallas, Texas. Komen Foundation Symposium on Breast Cancer at the Molecular and Cellular Level. Invited speaker: Role of a Paracrine Growth Factor in Metastatic Breast Cancer.

August 11-16, 1991. Newport, Rhode Island. Gordon Research Conference on Cancer. Invited speaker: "Tissue-specific Growth Factors in Cancer Metastasis.

June 5-7, 1991. Trento, Italy. III Annual Pezcoller Symposium. Invited speaker: Tumor Suppressor Genes.

May 28-29, 1991. Cedar Rapids, Iowa. Fourth Annual Diana J. Benz Memorial Lecture. Distinguished lecture series: Breast Cancer Metastasis.

May 21-22, 1991. Buffalo, New York. Roswell Park Memorial Institute. Distinguished lecturer series: Organ Specificity of Cancer Metastasis: Role of Specific Tumor Cell Properties and Cytokines Expressed at Organ Sites.

May 4, 1991. Maui, Hawaii. Society of Head and Neck Surgery Symposium on Cervical Lymph Node Metastases. Invited speaker: Mechanisms of Lymphatic and Hematogenous Metastases.

April 18-20, 1991. New York City. The Fourth World Congress on Cancers of the Skin. Invited speaker: Biology of Malignant Melanoma Metastasis: Tumor Cell Properties and Cytokines Expressed at Particular Organ Sites Determine Organ Specificity.

April 1-7, 1991. Steamboat Springs, Colorado. UCLA Symposium on Epithelial Cancers and Aerodigestive Tract. Invited speaker: Lung Colonization by Metastatic Tumor Cells is Determined by the Properites of Unique Tumor Cells and Lung-Associated Cytokines.

March 26-27, 1991. Phoenix, Arizona. Thirty-third Science Writers' Seminar. Invited speaker: Breast Cancer Metastasis.

March 13-15, 1991. St. Gallen, Switzerland. International Symposium on Angiogenesis. Invited symposia speaker: Stimulation of Growth and Migration of Liver-metastasizing Lymphoma Cells by Molecules from Murine Liver Endothelial Cells.

February 26, 1991. New York City. New York Academy of Sciences Meeting on Metastasis: Mechanisms to Therapies. Invited speaker: The Role of Cell Adhesion in Tumor Metastasis.

December 4-7, 1990. Houston, Texas. University of Texas M.D. Anderson Cancer Center's 43rd Annual Symposium on Fundamental Cancer Research. Co-chairman and plenary lecturer in Session II (Epithelial Tissue): Paracrine Growth Factors.

October 18-21, 1990. Prouts Neck, Maine. International Conference on Molecular Genetics of Bladder Cancer. Lectured in Session VI (Molecular Markers in Bladder Cancer) on Cytokines Involved in Tumor Invasion and Metastasis.

September 17-19, 1990. Bethesda, Maryland. Third International Congress of the Metastasis Research Society. Chairman of the Congress Program Committee. Delivered the President's address on Integrin and Non-Integrin Receptors and Paracrine Growth Factors in Organ Preference of Metastasis. Co-chaired Symposium II on Cell Adhesion and Extracellular Matrix.

September 13-16, 1990. Washington, D.C. Tenth International Scientific Symposium of the National Foundation for Cancer Research, Gedorgetown University Conference Center. In the third session (Basic Carcinogenesis) lectured on Human and Mouse Melanoma Heparanases Are Inhibited by the Anticancer Agent Suramin.

August 11-17, 1990. Bethesda, Maryland. Annual meeting of the NCI Laboratory of Tumor Cell Biology.on Frontiers in Human Retrovirology and Related Topics. Invited special speaker on Malignancies Associated with Retrovirus Infections.

July 6, 1990. Sapporo, Japan. 10th Sapporo Cancer Seminar. Keynote speaker: Generation of

Diversity in Malignant Cell Populations. Plenary lecture on Organ Specificity of Cancer Metastasis Is Determined by Tumor Cell Molecules and Cytokines Expressed at Particular Organ Sites.

July 3-5, 1990. Sapporo, Japan. 49th Annual Meeting of the Japanese Cancer Association. Speaker in the symposium on Progression and Metastasis in Malignancy entitled Cell Surface and Growth Properties of Metastatic Cells.

June 11-13, 1990. Trento, Italy. Fondazione Pezcoller Trento Symposium on the Therapeutic Implications of Molecular Biology of Breast Cancer. Invited participant/discussant.

May 23-26, 1990. Washington, D.C. 81st Annual Meeting of the American Association for Cancer Research. Invited participant in the symposium on Metastasis: Genetic Mechanisms and Cytokine Signal Transduction.

April 26-29, 1990. Washington, D.C. Cancer Cell Biology Workshop on Implications for New Drug Development. Invited discussant and lecturer: Molecular Properties of Metastatic Cancer Cells.

April 23-24, 1990. New York City. Cancer Progress V. Invited symposia presenter: Shaping Future Strategies for the Pharmacological Intervention of Tumor Cell Metastasis.

April 1-5, 1990. Washington, D.C. American Association of Pathologists Program of the FASEB 1990 Annual Meeting. Invited speaker in the Minisymposium, Invasion and Metastasis. Lecture title: Cytokines in Metastasis Growth and Organ Homing.

March 9-12, 1990. Squaw Valley, California. UCLA Symposia on Molecular and Cellular Biology: Biology of Sarcomas. Invited speaker: Interactions between Tumor Cells, Vascular Cells and Extracellular Matrix.

February 7-9, 1990. La Jolla, California. Twelfth Annual Conference on Clinical Laboratory Molecular Analysis sponsored by Scripps Clinic and Research Foundation. Invited speaker and instructor: Molecular Determinants of Metastasis.

February 4-7, 1990. San Francisco, California. Annual Meeting of the Society of Gynecologic Oncologists. Invited symposia speaker: Adhesive, Invasive and Growth Properties of Metastatic Cells.

January 27-February 3, 1990. Park City, Utah. UCLA Symposia on Molecular and Cellular Biology: Molecular Pathways of Cytokine Action. Symposia lecture on "Organ Specificity of Metastasis Is Determined by Adhesive, Invasive and Growth Properties of Unique Tumor Cells and Host Environments.

September 25-27, 1989. Genoa, Italy. Joint NCI-IST Symposium on Biology and Therapy of Breast Cancer. Plenary speaker, Differential Adhesion, Invasion and Growth Properties of Metastatic Mammary Adeno-carcinoma Cells.

September 14-16, 1989. Cambridge, England. AACR BACR EORTC meeting on The Cell Membrane and Cell Signals as Targets in Cancer Chemotherapy. Session chairman (Metastasis and Cell Death) and speaker, The Cell Surface and Metastasis.

May 28, 1989. Honolulu, Hawaii. Joint Meeting of the AACR/JCA on Molecular Aspects of Growth Control. Poster presentation entitled: Oncogene-induced tumor cell diversification and loss of intercellular junctional commun-ication correlates with metastatic potential in EJ c-H-*ras* gene transfered to rat mammary carcinoma cells. Lectures entitled: Membrane Functions and Cell Growth and Tumor Progression and Metastasis.

May 25-27, 1989. San Francisco, California. Presented at the 80th Annual Meeting of the American Association for Cancer Research.

April 13, 1989. Castres, France. International Symposium on New Concepts in Cancer, sponsored by the Centre de Recherche Pierre FABRE (Castres) and the Centre National de la Recherche Scientifique in (Toulouse). Delivered two lectures: Oncogenes and metastasis and Organ

specific adhesion: Invasion and Growth in Metastasis.

March 30, 1989. Dana Point, California. Fourth ICN-UCI Symposium. Lecturer on Protein-Nucleic Acid Interactions in Gene Expression.

October 12, 1988. New Orleans, Louisiana. ASTRA Symposium on The Cell Membrane and Therapeutic Strategies for Neoplastic Diseases. Delivered keynote talk on The Role of Membrane Structure in Blood-Borne Metastasis.

September 26-29, 1988. Heidelberg, West Germany. Second International Meeting of the Metastasis Research Society. Chairperson for two symposia; delivered plenary lecture on Organ tropism: Role of Differential Tumor Cell Adhesion.

September 13, 1988. Galveston, Texas. Galveston R. E. 'Bob' Smith International Workshop. Delivered a lecture on Metastasis and chaired a symposium session entitled The Biology of Melanoma

September 8, 1988. La Jolla, California. Participated in the Benson Biomedical Symposium and was a presenter and session Chairman in the area of Cancer and Genetic Disorders.

July 4-12, 1988. Sapporo, Japan. 8th Sapporo Cancer Seminar. Plenary speaker in the symposium on Cancer Progression and Metastasis.

May 24-28, 1988. New Orleans, Louisiana. 79th Annual Meeting of the American Association for Cancer Research. Chairperson of the poster discussant session on Invasion and Metastasis (Biology I). Participate in meetings of the Board of Directors of the AACR.

March 17-19, 1988. Dana Point, California. Third ICN-UCI Symposium on the Molecular Basis of Genetic Disease.

February 14-19, 1988. Honolulu, Hawaii. U.S.-Japan Cancer Program meeting on Cancer Cell Membranes: Aberrant Glycosylation and other Critical Molecular Events. Delivered a plenary lecture on Metastatic Potential of Tumor Cells and Genetic Background.

November 30, 1987 - December 2, 1987. Bethesda, Maryland. National Cancer Institute, Division of Cancer Biology and Diagnosis (Tumor Biology Program) Workshop on Experimental Metastasis: Designing New Research Strategies.

September 6-11, 1987. Eilat, Israel. Bat-Sheva Seminar on Tumor Malignancy: Pathogenesis and Prevention of Tumor Dissemination. Speaker in the Session on Functional Aspects of Oncogenes: Tumor Diversification and Metastasis.

August 16-21, 1987. New London, New Hampshire. Gordon Research Conference on Cancer. Speaker in the Session on High Frequency Variation in Normal and Neoplastic Populations: Oncogenes in Tumor Progression and Metastasis."

July 26-31, 1987. Saxtons River, Vermont. FASEB Summer Research Conference on Biology of Tumor Metastases. Speaker in the Session on Endothelium & Angiogenesis: Role of Endothelium in Tumor Metastases.

June 4, 1987. Bethesda, Maryland. Meeting of the Breast Cancer Working Group of the NCI Organ Systems Coordinating Program entitled Methods for Quantitating Cell Heterogeneity and Phenotypic Variation in Breast Cancer.

May 19-22, 1987. Atlanta, Georgia. 78th Annual Meeting of the American Association for Cancer Research. Chaired and spoke in a symposium on Invasion and Metastasis (Biology III).

May 12-15, 1987. Bologna, Italy. International Congress on Cancer Metastasis: Biological and Biochemical Mechanisms and Clinical aspects. In the session on Biology of Metastatic Cells, chaired a round table discussion on metastatic models. Presented a plenary presentation: Cytoskeletal and Junctional Heterogeneity in Mammary Tumor Cells and their Possible Significance in Tumor Progression.

April 6-12, 1987. Keystone, Colorado. Co-chaired the UCLA Symposium on Tumor Progression and Metastasis Delivered a lecture in the session on Regulation of the Metastatic Phenotype

on Gene Expression and Metastasis.

March 12, 1987. Bethesda, Maryland. Upper Aerodigestive Cancer Program Workshop on Biology of Tumor Growth and Progression. Chaired and presented in Session II on Invasion and Metastasis.

February 1-5, 1987. Taormina, Sicily. Erbamont/Farmitalia Carlo Erbe Workshop on Platelets and Angiogenesis in Cardiovascular and Cancer Research. Symposium lecture: The biology and biochemistry of metastasis.

University Teaching (Outside Univ. of Texas):

Cancer Biology Course (Winter and Fall), Invasion and Metastasis I, II & III, Stanford University, 1979-1993

University of Copenhagen, Center for Medical Biotechnology, Nordic Course on Techniques in Cell Biology, 1991

Rice University/Baylor College of Medicine/University of Texas Medical School at Houston: Vascular Cell Biology, Functional Differences in Organ Microvascular Endothelial Cells, 1990

National Taiwan University, College of Medicine, Taipei. Institute of Biochemistry, Tumor and Host Properties in Blood-Borne Metastasis, 1990

Houston Community College, Downtown Campus, Membrane Biology and Cancer Metastases, 1990

Rice University/Baylor College of Medicine/University of Texas Medical School at Houston: Vascular Cell Biology, Functional Differences in Organ Microvascular Endothelial Cells and Their Importance in Organ Preference of Tumor Metastasis, 1990

National Taiwan University, College of Medicine, Taipei. Institute of Biochemistry, Tumor and Host Properties in Blood-Borne Metastasis, 1990

Houston Community College, Downtown Campus, Membrane Biology and Cancer Metastases, 1990

The Lineberger Cancer Research Center of the University of North Carolina School of Medicine, Chapel Hill, Biochemistry and Biology of Metastasis, 1985

Stanford, California. Stanford University Program in Cancer Biology, Metastasis I and Metastasis II, 1985

Tucson, Arizona. University of Arizona, Cancer Biology Training Program at the Arizona Health Sciences Center: Models for Breast Cancer Metastasis, 1985

Houston Community College, Northwest Campus, Structure and Function of Cell Surface Membranes and the Fluid Mosaic Model, 1986-1988

American Cancer Society, 9th Annual Florida Division meeting, Breast Cancer Metastasis, 1986

Multidisciplinary Evening Seminar, Biology of Melanoma, sponsored by MDACC and the UT M. D. Anderson Associates, 1985

Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China, Mechanisms of Blood-Borne Metastasis and Tumor Formation, 1984

Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China, Role of Fetal and Virus Components in Large Cell Lymphoma Metastasis, 1984

Beijing Neurosurgical Institute, Beijing, China, Mechanisms of Blood-Borne Metastasis and Tumor Formation, 1984

Beijing Medical Institute, Beijing, China, Role of Fetal and Virus Components in Lymphoma Metastasis, 1984

MDACC Multidisciplinary Management of Early Breast Cancer: Present Status and Future Directions, sponsored by the M. D. Anderson Associates, 1984

Histopathobiology of Cancer Course, Keystone, Colorado (NCI sponsored), 1984
Oregon University Health Sciences Center, Biochemical and Biophysical Properties of Membranes series (BioChem 520), Cytoskeleton Membrane Interactions, 1984
Stanford University Program in Cancer Biology, Molecular and Cellular Aspects of Cancer Biol., Metastasis I & II, 1984
University of California, Los Angeles, Pathology Program in Cancer Biology, Cancer Metastasis, 1984
Yale University School of Medicine, Cancer Center Educational Lecture Series, Mechanisms of Invasion and Metastasis, 1983
University of Missouri School of Medicine, Columbia, Perspectives in Pharmacology and Medicine Series, Cellular Diversity and Instability during the Malignant Progression of Cancer, 1983
University of California, Los Angeles, Major Concepts in Oncology (M293), Blood-Borne Metastasis, 1980
Histopathobiology of Neoplasia, Lake Placid, New York (NCI sponsored), Mechansims of Metastasis, 1980
American Cancer Society Biology of Cancer series, California State University, Northridge, 1978-1982
American Cancer Society Biology of Cancer series, University of California, Los Angeles, 1978-1980
Histopathobiology of Cancer Course, Keystone, Colorado (NCI sponsored), Mechansims of Metastasis, 1979
Transformed Cell Course, Cold Spring Harbor Laboratory, New York, Pathobiology of Cancer Progression, 1978
Pathophysiology of Cancer Course, Keystone, Colorado (NCI sponsored), Pathobiology of Cancer Progression, 1978
University of Washington School of Medicine, Visiting Professor of Pathology (Pathology 507), 1977
The Upjohn Company Biology Education Lecture Series, Cell Surfaces and Plasma Membranes, 1976
University of California, Riverside, Visiting Professor of Biochemistry (Biochemistry 230), 1975
California Institute of Technology, Visiting Assistant Professor of Cell Biology, 1971

Supervisory Teaching:

Ph.D. Thesis Committees--Chairman:

Amr Moustafa, M.D., Ph.D. 1998, Ain Shams University, Cairo, Egypt. Current: Associate Professor of Biochemistry and Medicine, Ain Shams University Faculty of Medicine, Cairo, Egypt.
Mei Hu, M.D., Ph.D. 1996, University of Texas Graduate School of Biomedical Sciences, Houston, TX. Current: Associate Professor, Dept. of Rehabilitive Medicine, Baylor College of Medicine, Houston, TX.
Zhong Yun, M.S., Ph.D., 1996, University of Texas Graduate School of Biomedical Sciences, Houston, TX. Current: Associate Professor, Yale University, New Haven, CT.
John Herrmann, Ph.D., 1995, University of Texas Graduate School of Biomedical Sciences, Houston, TX. Current: Associate Professor, Baylor College of Medicine, Houston.
Li Jin, M.D., Ph.D. 1994, University of Texas Graduate School of Biomedical Sciences, Houston. Current: Department Head, New Jersey State Pathology Laboratory, Newark, NJ.
John Patton, Ph.D., 1993, Rice University, Dept. of Chemical Engineering. Current: Staff scientist, Glycomed, Alameda, CA.

Alexander Chop, Ph.D. 1992, University of Texas Graduate School of Biomedical Sciences, Houston. Current: Staff Physician, Creighton University School of Medicine, Omaha, NB.

Sridhar Rajagopalan, Ph.D., 1990, Rice University, Dept. of Chemical Engineering. Current: Staff Scientist, Shell Oil Research Division, Houston, TX.

Robert J. Tressler, Ph.D., 1990, The University of Texas Graduate School of Biomedical Sciences, Houston; 6/90-present, Staff Scientist, Glycomed, Palo Alto, CA.

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U.S. Patent Issued: (No. 5,030,559) Methods and Compos-itions for the Identification of Metastatic Human Tumors, invented by G.L. Nicolson, S.M. North and P.A. Steck, 1991.

U.S. Patent Issued: (No. 5,164,489) Lung Growth Stimulatory and Inhibitory Factors for Carcinoma Tumor Cells, invented by G.L. Nicolson and P.G. Cavanaugh, 1992.

U.S. Patent Issued: (No. 5,262,403) Glycosaminoglycan Derivatives and their use as Inhibitors of Tumor Invasiveness or Metastatic Profusion-II, invented by G.L. Nicolson, T. Irimura and M. Nakajima, 1993.

U.S. Patent Pending: (UTMDACC:115) Metastasis Associated Collagenolytic Metalloproteinase, invented by M. Nakajima and G.L. Nicolson

U.S. Patent Pending: (UTMDACC:193) Immunochemical Localization of Heparanase in Mouse and Human Melanomas, invented by G.L. Nicolson, L. Jin and M. Nakajima

U.S. Patent Issued: (No. 5,332,812) Endoglycosidase Immunoassay, invented by G.L. Nicolson, M. Nakajima and T. Irimura

U.S. Patent Pending: (UTDMACC:270) Liver-Derived Tumor Cell Growth Inhibitor, invented by P.G. Cavanaugh and G.L.Nicolson

U.S. Patent Pending: (UTDMACC:387) Metastasis-Associated Gene, invented by G.L. Nicolson, Y. Toh and S. Pencil.

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surface charge on mammalian spermatozoa. Amer. J. Anat. 135: 497-520 (1972).

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