

## CURRICULUM VITAE

Lawrence K. Duffy

March 2005

### CURRENT POSITION:

Professor of Chemistry & Biochemistry  
Department of Chemistry & Biochemistry  
University of Alaska Fairbanks  
Fairbanks, Alaska 99775-6160

### BIOGRAPHICAL:

Date & Place of Birth: February 1, 1948  
Brooklyn, New York

#### Marital Status & Children:

Wife: Geraldine A. Sheridan  
Children: Anne Marie  
Kevin Michael  
Ryan Sheridan

Address: 2712 Tall Spruce, PO Box 80986  
Fairbanks, AK 99708

Military Status: Lieutenant USNR  
Active Duty: 1971-1973

### EDUCATION:

Fordham University, Bronx, New York	1969	Chemistry	B.S.
University of Alaska, Fairbanks, Alaska	1971	Organic Chemistry	M.S.
Institute of Arctic Biology	1977	Biochemistry	Ph.D.

### HONORS:

Allied-Signal Corporation and ADRDA Faculty Scholar Award, 1987  
ACS Analytical Chemistry Award, Fordham University, 1969  
NSF Summer Traineeship, Department of Chemistry, University of Alaska, 1971  
J.W. McLaughlin Fellow, 1980-82  
Sigma Xi  
Phi Lambda Upsilon  
Who's Who in America (53<sup>rd</sup> Edition)  
W.F. Milton Scholar, 1983  
UAF Carol Feist Outstanding Advisor Award 1993-94, 1996-97  
NIDCD Minority Research Mentoring Award 1996  
Certified Professional Chemist, American Institute of Chemists, 1997  
US Army, Navy and Air Force's Faculty Award for Excellence in Scientific Instruction, 1998  
North Star Borough School District Award for Outstanding Service, 1998  
Member, Editorial Board "The Science of the Total Environment", 1999  
UAF Alumni Award for Professional Achievement, 1999

Associate Editor, Journal of Alzheimer's Disease, 2000  
 Emil Usibelli Distinguished Research Award, 2002  
 President-Elect, American Institute of Chemists, 2004  
 Wildlife Society, Wildlife Publications Award – Outstanding Monography, 2004

### **ADDITIONAL STUDIES:**

FEBS Adv. Course in Protein Sequencing, Prague, Czechoslovakia (1980)  
 Molecular Approaches to the Nervous System. Society for Neuroscience Short Course, Boston, MA (1983)  
 LKB Workshop on Isoelectric Focusing, Framingham, MA (1984)  
 Hybridomas in Biotechnology and Medicine, Harvard Medical School (1986)  
 Beckman Amino Acid Workshop, Palo Alto, CA (1987)  
 Chemical Challenges in Immunology, ACS Short Course (1992)  
 Pharmacology for Chemists, ACS Short Course (1994)  
 Toxicology for Chemists, ACS Short Course (1996)  
 Workshop on Teaching Research Ethics, Indiana University (1997)  
 Statistical Analysis of Laboratory Data, ACS Short Course (1998)  
 Ethics of Research with Humans: Past, Present and Future (2000), UW Short Course  
 Workshop on Teaching Survival Skills and Ethics (2001), Snowmass, CO  
 Guidelines for the Assessment of Microbiological Contamination in Indoor Environments, AIHA, Fairbanks, AK (2002)  
 How to Supervise People, Fred Pryor Seminars, Fairbanks, AK 2002  
 IRB 101 By Public Responsibility in Medicine and Research (2002)  
 How to Edit, Fred Pryor Seminars (2003)

### **RECENT ADMINISTRATIVE EXPERIENCE**

#### As Department Head

Developed and initiated approval of an undergraduate minor in Biochemistry.  
 Initiated and coordinated ACS approval of an undergraduate Environmental Chemistry Option for UAF Chemistry majors.  
 Assumed direct responsibility for the staffing and offering of summer programs in Chemistry and Biochemistry.  
 Coordinated the development of assessment protocols and standards for Chemistry and Biochemistry undergraduate majors.  
 Managed Environmental Chemistry Ph.D. program. Approved by Board of Regents.  
 Assumed responsibility and managed 5 year ACS reaccreditation for B.S. program in the Department of Chemistry and Biochemistry  
 Broadened the Chemistry and Biochemistry Department's focus by hiring new faculty  
 Increased private donations to the Department.

#### As Associate Dean

Assisted in the development of the CSEM Partners in Science component of the Rural Systemic Initiative.  
 Initiated the siting of the Howard Luke Science Fair at CSEM, UAF.  
 Assisted in the development of the CSEM Summer Science Camp, ASRA.  
 Developed a Survival Skills and Ethics Program for CSEM and UAF  
 Directed initiation of Alaska Basic Neuroscience Program  
 Established Outstanding Graduate Student Advisor Awards  
 Developed CSEM Graduate Student Dismissal Policy  
 Lead development of CSEM TA training and orientation program

**TEACHING EXPERIENCE:**

## 1. University of Alaska Fairbanks

1987-89, 95,97,98,99,01, 02, 03	Fall	General Biochemistry (Chem 451) 3 credits.
1988-89, 1993-96, 98,99,00	Spring	Biochemistry Lab. (Chem 452) 1 hr Lecture with 6 hours lab. 4 credits.
1989	Spring	Advanced Biochemistry Course (Chem 652) 3 credits. 15 Lectures on proteins.
1989	Fall	General Chemistry (Chem 105) 4 credits.
1998	Spring	General Chemistry (Chem 105) 4 credits
1990-96, 01 02	Spring	Introduction to Biochemistry (Chem 104) 4 credits. Summer 2000
1990, 92, 94	Fall	Protein Structure and Function (Chem 654) 3 credits.
1991-96,00 01	Fall	Basic General Chemistry (Chem 103) 4 credits. Summer 2000
1993	Spring	Comparative Biochemistry (Chem 693) 1 credit.
1994, 95, 97 00, 02, 04	Spring Fall	Environmental Biochemistry and Biotechnology (Chem 655) 3 credits. Also as independent study
1996,97,98,03 04, 05	Spring	Chemistry and Society (Chem 100) 4 credits.
1998, 99, 02 03	Fall	Also taught during the summer 97, 98, 99
1996	Fall	Introduction to Toxicology (Chem 293) 1 credit
1997	Spring	Research Ethics (Biol 493) 3 credits
1998	Spring	Research Ethics (Chem 300) 3 credits
2001, 03	Fall	Research Ethics (Chem 300) 3 credits
2004	Fall	Natural Resources, Environment & People (Chem 393) 3 credits

## 2. Harvard Medical School

1983-1986		Medical School Advanced Biochemistry Course (700B) 1 Conference Section/week.
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## 3. Roxbury Community College (Evening Division)

1984	Fall	Organic Chemistry (Chem 210) 3 hours of lecture and 2 hours of lab/week.
1985 - 1987		General Chemistry and Laboratory (Chem 121 and Chem 122).

## 4. Middlesex Community College (Continuing Education Division)

1983	Fall	General Chemistry I and Laboratory (Chem SC150). 3 hours of lecturer and 3 hours of lab/week.
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## 5. University of Texas Medical Branch

1980 - 1982		Interdisciplinary laboratory for first year medical students: Human Genetics Counseling lab. 2 lectures.
1981	Spring	Graduate Course BIOC 6305. Advance Amino Acids and Proteins. 2 Lectures/Course.
1981 - 1982	Fall	Medical School Biochemistry Course. 3 Lectures/Course.
1982	Fall	Biochemical Methods BIOC 6304. Supervised one week of experiments.

## 6. Galveston College

1982	Fall	General Chemistry and Laboratory. 3 hours of lecture and 3 hours of lab per week.
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## 7. University of Alaska

1969 - 1976		Laboratory Sections in General Chemistry, Contemporary Chemistry, Organic Chemistry and Biochemistry.
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Graduate Students Supervised:	Lars Ebbesson	MS	1994
	Joe Boger	MA	1994
	Xiaohong Zhao	Ph.D.	1994
	Sandip Vyas	Ph.D.	1995
	Sherri Smith	MS	1996
	Yancy Bodenstein	MS	1997
	Ying Xu	MA	1998
	Jon Menough	MS	1998
	Christopher Taylor	MS	1999
	Kim Clapp-Lilly	Ph.D.	2000
	Jane LeBlond	M.S.	2000
	Peggy Crane	MAT	2000
	Janet Ricker	MS	2000
	Kerrie Beckett	MA	2000
	Margaret Isbell	Ph.D.	2000
	Xiaoming Zhang	MS	2001
	Lars Hansen	MAT	2002
	Shelli Stewart	MS	2003 (co-Chair)
	Anna Godduhn	MA	2003
	Kriya Dunlap	MS	2003
Catherine Humphries	MS	2003 (co-Chair)	
Nicole South	MA	2003	
Anne Whitehead	MA	2004	
Bing Shi	PhD	2004 (co-Chair)	
Scott Kemp	MS	2005	

**PROFESSIONAL EXPERIENCE:**

- 1969 - 1971 Laboratory Instructor, Department of Chemistry, University of Alaska, Fairbanks, Alaska.  
Research: Photochemistry of organic pesticides. Supervisor, Dr. G. W. Smith.
- 1974 - 1976 Research Assistant, Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska. Research: Function and Structure of Hemoglobins from Arctic Animals.  
Supervisors, Dr. C. T. Genaux and Dr. P R. Morrison.
- 1977 - 1978 Post-doctoral Fellow, Boston University, Boston, Massachusetts with Dr. R. A. Laursen.  
Research: Structure of EF-Tu.
- 1978 - 1980 Post-doctoral Fellow, Department of Physiological Chemistry, Roche Institute of Molecular Biology, Nutley, New Jersey with Dr. C. Y. Lai. Research: Chemical Modification of Cholera Toxin.
- 1980 - 1981 James W. McLaughlin Fellow, Department of Human Biological Chemistry and Genetics, The University of Texas Medical Branch, Galveston, Texas.
- 1982 - 1983 Research Assistant Professor, Department of Biological Chemistry and Genetics, The University of Texas Medical Branch, Galveston, Texas.
- 1983 - 1984 Instructor of Chemical Sciences, Middlesex Community College, Division of Continuing Education.
- 1983 - 1985 Assistant Biochemist, McLean Hospital, Belmont, MA.
- 1983 - 1987 Assistant Professor of Biochemistry (Neurology), Harvard Medical School.
- 1984 - 1987 Science and Organic Chemistry Instructor, Roxbury Community College, Division of Continuing Education.
- 1985 - 1987 Associate Biochemist, Brigham and Women's Hospital.
- 1986 - 1987 Research Associate, Duke University Center for the Study of Primate Biology and History.
- 1987 - Present Professor of Chemistry and Biochemistry, University of Alaska Fairbanks.
- 1987 - 1990 Coordinator, Program in Biochemistry and Molecular Biology.  
1992 - 1993
- 1988 - 1998 Coordinator, Summer Undergraduate Research Intern Program in Chemistry and Biochemistry, University of Alaska Fairbanks.
- 1987 - 1990 Adjunct Researcher, Center for Neurologic Diseases, Brigham and Women's Hospital, Boston, MA.
- 1995 - 1998 Affiliate Professor, Center for Alcohol Addiction Studies, UAA
- 1994 - 1999 Head, Department of Chemistry and Biochemistry.
- 1996 - Present Coordinator of the RSI Scientist-in-Residence Program (CSEM)

1999 (Summer)	Instructor, Rural Alaska Honors Institute (RAHI)
2000 – Present	Assoc. Dean for Graduate Programs and Outreach (CSEM)
2000 – Present	Director, Alaska Basic Neuroscience Program
2004 – Present	Director, CNSM Engineering, Science and Technology Experiment Station

#### **MEMBERSHIP IN SCIENTIFIC SOCIETIES:**

American Society of Biological Chemists & Molecular Biologists  
 American Chemical Society  
 American Society of Zoologists (1977-1987)  
 American Society for Circumpolar Health  
 New York Academy of Sciences  
 International Society of Toxinology  
 Massachusetts Association of Adult and Continuing Education (1985-1987)  
 Fellow, American Institute of Chemists  
 American Society for Neurochemistry  
 Academie M.I.D.I.  
 International Society for the Study of Xenobiotics (ISSX) (1998-2000)  
 Society of Environmental Toxicology and Chemistry (1998-2001)

#### **PROFESSIONAL SERVICE:**

Program Committee, American Chemical Society, Southeastern Section (1982)  
 Membership Committee, ACS, Northeastern Section (1983)  
 Chairman, Membership Committee, ACS, Northeastern Section (1985)  
 ACS Congressional Advisor, District 5, MA (1983)  
 Chemical Education Committee (Norris Summer Scholars), ACS, Northeastern Section (1984)  
 Public Affair Committee, ACS, Northeastern Section (1985)  
 Fellow, Professional Program Committee, American Institute of Chemists (1988)  
 Secretary/Treasurer, Sigma Xi Alaska Club (1988-90, 1994-01) President, Sigma Xi Alaska (1991-92)  
 Counselor, Alaska Section, American Chemical Society (1989-1990)  
 AIC-Non AIC Award Nomination Committee (1991)  
 OxyFuel Task Force, Fairbanks North Star Borough (1992)  
 Program Chair, 1994 Northwest Regional ACS meeting, Anchorage, AK.  
 AFAR National Scientific Advisory Council (1995-present)  
 Member, Regional Sigma Xi Nominating Committee (1998-2001)  
 Member, Board of Directors, American Society for Circumpolar Health (1999-00, 2003)  
 National Chemistry Olimpiad Alaska Coordinator (2000-01)  
 Associate Regional Director, Sigma Xi Board of Governors (2000-03)  
 AIC Ethics Committee, Chair (2001)  
 AIC Board of Directors (2001- ); Board Secretary (2003); President-Elect (2004)  
 North Star Borough Schools Curriculum Advisory Committee (2002-04)  
 AMAP METALS Working Group (2001-03)  
 Amchitka Stewardship Policy Oversight Committee (CRFSP) (2003)  
 AIC Representative to AAAS Section on Societal Impacts of Science and Engineering (2004)  
 North Star Borough, Pollution Control Committee (2003-05)

## UNIVERSITY SERVICE AND GOVERNANCE:

UAF Faculty Senate, Representative (1988-21, 1993-95, 1997-01)  
 UAF Faculty Senate Curriculum Affairs Committee (1989-92)  
 UAF Faculty Senate Curriculum Review Committee, chair (1991-92)  
 UAF Faculty Senate Graduate Council, Chair (1993-94)  
 UAF Faculty Senate Administrative Committee, chair (1999-01)  
 Graduate Admissions Committee, Department of Chemistry, UAF (1988-89)  
 UAF Human Experimentation Review Committee (1988-89), IRB (1999-01)  
 IAB Safety Committee (1992), Chairman, IAB Research Advisory Committee (1992)  
 UAF Student Success Committee (1992)  
 CSEM, New College Administration Organization Committee (1995)  
 UAF Student Support Services Advisory Board (1996)  
 UAF Graduate Student Travel Committee, Chairman (1997)  
 UAF Graduate School Advisory Committee, Chairman (1998-99)  
 UAF Center for Global Change Steering Committee (1998)  
 UAF Faculty Senate, President (2000-01)  
 UA Faculty Alliance, Chair (2000-03)  
 CSEM Accreditation Writing Team (2000-01)  
 UAF Standard Four (Faculty) Accreditation Working Group, Chair (2000-01)  
 Task Force on Department Chairpersons, Chair (1989-91)  
 Ad Hoc Committee on Compensation & Workload (1994-95)  
 Committee to Nominate Commencement Speaker & Honorary Degree Recipients (1996-2004)  
 Chair, UAF Biosafety Committee (2001- )  
 Chair, UAF Chemical Safety Committee (2002- )  
 UAF Task Force on Joint PhD degrees between MAUs (2001)  
 College of Fellows of the University of Alaska Foundation (2001)  
 Science Steering Committee, Center for Global Change (2000-2004)  
 UAF University of Arctic Steering Committee (2004- )  
 UAF Interdisciplinary Programs Review Committee (2003-2004)  
 UAF BICS User Committee (2001)  
 UAF BIRT Research/Teaching User Committee (2004)  
 UAF Chair Faculty Senate Appeals and Oversight Committee (2005)

## RESEARCH FUNDING:

Over 30 years in research, funding for both research and students has been obtained from NSF, NIH, NOAA, various foundations and industry, which totals over 15 million dollars.

## RESEARCH ACTIVITIES (Selected):

### Principal Investigator

"Characteristics of Alaskan *Microtus* Hemoglobins," Grant by U.S. Center for Disease Control (administered by the University of Alaska, 1976)

James W. McLaughlin Foundation. "Bacterial Toxins and their Mechanism of Action," 9/1/80-8/31/82

American Cancer Society Institutional Research Grant. "Monoclonal Antibodies to Vinculin as a Probe to the Interaction of Fibronectin and Vinculin," 6/15/82-12/14/82

American Philosophical Society. "Structure of Lemur Hemoglobins," 12/1/82-12/1/83

William F. Milton Fund. "Antigenic Structure of Alzheimer Brain 200K Neurofilament," 2/1/84-2/1/85

RO-1, NIH Grant, "Structural Studies of Alzheimer 200K Neurofilament," 8/1/84-7/31/87

American Federation for Aging Research Grant. "Monoclonal Antibodies to Age Related Abnormal Proteins," 7/1/86-6/31/87

NSF Grant. "Aging & Biochemistry of a New Receptor Protein in the Brain," 3/1/88-2/27/90

Whitehall Foundation. "Molecular Investigation of the Phylogenetic Position of the Cheirogaleidae," 1988-89

NSF Grant. "A Chemistry and Biochemistry Summer Undergraduate Intern Program in Alaska," 5/1/88-4/30/93.

NSF Grant. "Purchase of an Amino Acid Analyzer for Research in Alaska," 7/1/89

WRC-UAF. "Environmental Biotechnology Studies on the Use of Monoclonal Antibodies to Detect Toxins and Pollutants in Water Systems," 7/1/89-8/30/91

NIH Grant. "Aging and Alzheimer Amyloid Protein Chemistry." 4/1/90 - 3/31/93

Murdock Charitable Trust. "Biopolymer Facility." 5/1/91 - 4/30/92

UAF Mellon Faculty Development Award "Rural Science Education." 10/1/92-5/1/92

ACS Project Seed. Biochemistry Research for High School Students. 6/1/92

Monitoring Oxyfuel in Fairbanks, OFA, 9/1/93-6/30/94

Biomonitors of Environmental Pollution, CMI-MMS, 6/1/94-5/30/96

NSF Grant, "Environmental Chemistry and Biochemistry in Alaska." 5/1/95-4/30/98

K-12, NIDCD Grant, "Olfactory Degeneration: A Salmon Model." 9/1/96-8/30/99

NIEHS Grant, "Mercury Analysis laboratory Equipment." 10/1/97-9/30/98

AZUR Grant, "Linkage of Microtox Chronic Toxicity Assay to Heat Shock protein in Grayling Eggs after Fertilization" 8/1/98-8/30/99

Water Research Center, "Mercury Levels in Alaskan Rivers" 3/1/00-8/1/01

NINDS Grant, "Alaska Basic Neuroscience Program" 9/30/00-9/29/05

University of Alaska Foundation Lecturer Funding 3/1/02-3/10/02 and 5/1/04-9/1/04

DOE Subcontract, "CRESP II Research on Amchitka" 3/1/04-2/15/05

## Co-Investigator

Grant GM19039 NIH. "Human Fibronectin. Structure and Function." A. Kurosky - Principal Investigator, 4/1/81-3/31/82

Alzheimer Society Grant. "Monoclonal Antibodies to PHF". D. Selkoe - Principal Investigator - 6/1/83-6/1/84

NIH Grant. "Molecular Pathology of Alzheimer Disease". D. Selkoe - Principal Investigator - 12/1/83-11/30/85

NIH Grant. "Measurement of A Brain Protein by A Novel Microsensor". G. Bastians - Principal Investigator - 4/1/86

Whitaker Health Science Fund, "Alzheimer Amyloid and Plasma Proteins". Vernon Ingram - Co-Investigator

NIH Grant. Biopolymer Facility Equipment. E. Braunwald - Principal Investigator - 4/1/88

U of A Siberian/Alaskan Medical Research Program. "Addictive Behavior and Genetic Predisposition". Bernard Segal, Principal Investigator - 09/01/89

American Society for Biochemistry and Molecular Biology "High School Science Teacher Summer Research". Terry Krohe - Principal Investigator - 6/1/92

EVOS, "Nearshore Vertebrates". D. Roby - Principal Investigator - 7/1/95

"Nearshore Vertebrates." L. Duffy - Principal Investigator - 1996-97

"Responses of River Otters to Oil Contamination". Merau Ben-David – Principle Investigator – 11/1/97-9/30/99

Research Corporation. "Benzene and Carbon Monoxide as Air Pollutants in Fairbanks, AK". D. Jaffe – Principal Investigator – 3/3/97-9/30/98

CIFAR, "Human and Chemical Ecology of Arctic Pathways by Marine Pollutants". David W. Norton – Principal Investigator – 3/3/98-3/2/00

North Pacific Marine Research Program. "Concentrations of Mercury and Its Pathways in Marine Organisms of Eastern Bering Sea." A. Sathy Naidu – Principal Investigator – 7/1/99-6/30/02.

Natural Resources Fund. "Wetlands as Sources of Toxic Hg Compounds." Mark Hines - Principal Investigator – 5/1/2000 – 4/30/2002.

Natural Resources Fund. "Noninvasive Environmental Monitoring of natural resources development in Alaska." 5/1/2001-4/30/2002.

NIH Minority Supplemental Grant. "The Function of AVP and PKC beta1 in the SCN of Mice." 4/1/2001-5/1/2002.

NSF "Sustainability and Stewardship in Alaska" C. Gerlack – Principal Investigator - 08/30/04-08/30/05.

**Consultant:**

Integrated Chemical Sensors, 1985-86  
 Athena Neurosciences, 1986-87  
 Interior Alaska Beekeepers Association, 1989  
 Alaska Biotechnology Consultants, 1989  
 Jenson, Harris and Ross, 1989  
 Neuromedical Inc., 1991  
 North Coast Natural Resources Consultants Inc, 1998

**Reviewer:**

## Journals:

Biochemistry  
 The Chemist  
 Neuroscience  
 Journal of Chemical Education  
 Archives of Biochemistry and Biophysics  
 Journal of Mammology  
 Proceed. 8th International Cold Regions Eng.  
 Journal of Neurochemistry  
 Journal of Neuroscience Research  
 Comparative Biochemistry and Physiology  
 Dirasat, a medical research journal  
 Science of the Total Environment

## Textbooks:

Chemistry 2004, a high school text (published by Holt)

## Proposals:

Alzheimer Society  
 American Federation of Aging Research  
 Alaska Science and Technology Foundation  
 NSF - OSTI/ARI Facilities Panel, also Arctic Division/Contaminants Proposals  
 Center for Indoor Air Research  
 Philip Morris External Research Program  
 NSF – Biocomplexity Program  
 International FSU Research Proposals  
 Global Change Center, UAF Student Proposals

**INVITED LECTURES:**

1. Roche Institute of Molecular Biology, Nutley, NJ, May, 1981
2. IV International Conference on Methods in Protein Sequence Analysis, Brookhaven National Laboratory, September, 1981
3. LaFayette College, Department of Chemistry, Easton, PA, April, 1982
4. Mini-Symposium on HPLC Applications at UTMB, Galveston, TX, May, 1982
5. FEBS "Hemoglobin Symposium," Brussels, Belgium, July, 1983
6. University of Alaska, Institute of Arctic Biology, Fairbanks, AK, October, 1984
7. Harvard Medical School, Department of Biochemistry, Boston, MA, October, 1985
8. Boston Glycoprotein Group, Boston, May, 1987
9. Southeastern Mass. Univ., Department of Chemistry, Fall River, January 26, 1988
10. Alaskan-Siberian Exchange, Inst. of Clinical and Experimental Medicine, Novosibirsk, USSR, October, 1988

11. Palmer Agricultural Research Station, UAF, March, 1989
12. Institute of Marine Science, UAF, September, 1989
13. Alzheimer Society Workshop, September, 1990
14. Department of Chemistry, University of Alaska Anchorage, March, 1991
15. Regional Center for Alcoholism, Fairbanks, AK, July, 1991
16. Department of Chemistry and Biochemistry, Cal. State Fullerton, March, 1992
17. Workshop on Arctic Contamination, IARPC, Anchorage, AK, May, 1993
18. Symposium on Human Ecology in Extreme Environments, Vladivostok, September, 1994
19. NIDCD Partnership Program for Research in Human Communication, Rockville, MD, September, 1996.
20. Community Forum on Environmental Research, YKHC Bethel, AK. August, 1997.
21. "Research Ethics" to Polaris Group: Project on Leading Alaska Restructuring in Science, October 3-4, 1997, Anchorage, AK.
22. Kachemak Bay Conference, "Developing Sentinel Species and Biomarkers for Kachemak Bay" April 25, 1998, Homer, AK.
23. "Mercury and Health Risks in Western Alaska" to Y-K Health Corp., OEHE and Hospital Staff, March 31, 1999.
24. Pathways to Aging Meeting. "The Role of Amyloid Beta Protein in Progressive Neurodegeneration" April 22-23, 1999, Egan Convention Center, Anchorage, AK.
25. 1999 Fall Forum for Alzheimer's Disease. "Alaska's Role in Current Alzheimer's Disease Research," Nov 1999, Juneau, Fairbanks and Anchorage.
26. "A Case Study of Community Directed Research on Mercury in Western Alaska," Alaska Pacific University, Dec. 8, 1999.
27. Arctic Council Panel on "Contaminants in the North," April 2000.
28. US EPA International workshop on "Trends and Effects of Heavy Metals in the Arctic," McLean, VA June 2001.
29. NOAA Workshop on Steller Sea Lions, Anchorage, AK September 2001
30. AISES, Alaska Chapter "Salmon, Mercury and Neurobiology" November 2001
31. YKHC Bethel Hospital Grand Rounds "Antioxidants, Mercury and Nutrition", July 2003
32. UA Leadership Seminar Series: "The Art of Leadership Exercised by Department Chairs", Oct 2003
33. ADAK Community Meeting "Radioactivity and Amchitka," June 2004

### **Community Activities:**

Civil Defense Coordinator, Warren County, NJ, 1979  
 Youth Commission, Treasurer, Town of Acton, 1984  
 Community Education Advisory Committee, Town of Acton, 1986  
 Fairbanks Alzheimer Support Group, 1988-1998  
 Institutional Review Board, Fairbanks Memorial Hospital Foundation, 1990  
 Board of Directors, Alzheimer's Disease Association of Alaska (Vice President - 1993; President-1994-1995, 1998-99; 00-present).  
 Regional Delegation to Alzheimer Society 1995  
 Member, Ft. Wainwright Restoration Advisory Board, 1998-2000  
 Corp of Engineers Working Group on Dredging Standards in Alaska, 2000-2003  
 AMAP Working Group on Metals in the Arctic, 2000-03  
 NSB Board of Education Curriculum Advisory Committee (2002-04)  
 NSB Pollution Control Commission (2004- )

**BIBLIOGRAPHY:****A. Theses:**

1. Duffy, L.K. 1972. Photo-hydrolysis of chlorophenoxyacetic acid compounds, M.S. Thesis. University of Alaska Fairbanks, AK.
2. Duffy, L.K. 1977. A comparison of the primary structure of hemoglobins from two microtine tribes. Microtini and Lemnini, Ph.D. Dissertation. Institute of Arctic Biology, University of Alaska Fairbanks, AK.

**B. Articles in Journals: (peer reviewed; superscript 1 indicates undergraduate or high school author)**

1. Stratton, L.P. and Duffy, L.K. 1976. Hemoglobin polymorphism in *Microtus pennsylvanicus*. *Comp. Biochem. Physiol.* 54B:413-419.
2. Duffy, L.K., Genaux, C.T. and Stratton, L.P. 1976. Amino acid differences between the  $\beta$ -chains from two hemoglobins of the yellow-cheeked vole. *Biochem. Genetics.* 14:809-821.
3. Stratton, L.P., Duffy, L.K. and Porchet, A.L. 1977. Comparative solubilities and electrophoresis of microtine hemoglobin. *Comp. Biochem. Physiol.* 56B:321-327.
4. Duffy, L.K. and Genaux, C.T. 1977. The primary structure of the hemoglobin  $\beta$ -chain of *Microtus xanthognathus*. *Comp. Biochem. Physiol.* 56B:143-146.
5. Morrison, P.R., Duffy, L.K., Ramakrishnan, P. and Genaux, C.T. 1977. Comparison to the tryptic peptides from two cricetid genera. *Peromyscus* and *Calomys*. *Biochem. Systematics and Ecology.* 5:309-317.
6. Duffy, L.K., Genaux, C.T. and Morrison, P.R. 1978. Amino acid differences between major and minor hemoglobins from lemmings (*Lemmus* and *Dicrostonyx*). *Comp. Biochem. Physiol.* 61B:521-532.
7. Laursen, R.A. and Duffy, L.K. 1978. The evolution of elongation factors Tu and G by gene duplication. *FEBS Lett.* 92:200-202.
8. Duffy, L.K. and Lai, C.Y. 1979. Involvement of arginine residues in the binding site of cholera toxin subunit B. *Biochem. Biophys. Res. Commun.* 91:1005-1010.
9. Ara, K., Clark, B.F.C., Duffy, L., Jones, M.D., Kaziro, Y., Laursen, R.A., L'Italien, J., Miller, D.L., Nagarkatti, S., Nakamura, S., Nielson, K.M., Peterson, T.E., Takahashi, K. and Wade, M. 1980. Primary structure of elongation factor Tu from *Escherichia coli*. *Proc. Natl. Acad. Sci. USA.* 77:1326-1330.
10. Duffy, L.K., Gerger, L., Johnson, A.E. and Miller, D.L. 1981. Identification of a histidine residue near the amino acyl-tRNA binding site of elongation factor Tu. *Biochemistry.* 20:4663-4666.
11. Duffy, L.K., Kurosky, A. and Peterson, J.W. 1981. Characterization of cholera toxin precursor. *FEBS Lett.* 126:187-190.

12. Lai, C.Y., Cancedda, F. and Duffy, L.K. 1981. ADP-ribosyl transferase activity of cholera toxin polypeptide A1, and the effect of limited trypsinolysis. *Biochem. Biophys. Res. Commun.* 102:1021-1027.
13. Duffy, L.K., Kurosky, A. and Peterson, J.W. 1981. Covalent structure of the  $\beta$ -chain of the A subunit of cholera toxin. *J. Biol. Chem.* 256:12252-12256.
14. Fader, R.C., Duffy, L.K., Davis, C.P. and Kurosky, A. 1982. Purification and chemical characterization of Type 1 Pili Isolated from *Klebsiella Pneumoniae*. *J. Biol. Chem.* 257:3301-3305.
15. Duffy, L.K., McDonel, J.S., McClane, B.A. and Kurosky, A. 1982. *Clostridium Perfringens* Type A Enterotoxin: Characterization of the amino terminal region. *Infection and Immunity.* pp386-388.
16. Copenhaver, D.H., Dixon, J.D. and Duffy, L.K. 1983. Prosimian hemoglobins I. The primary structure of the  $\beta$ -globin chain of Lemur Catta. *Hemoglobin.* 7:1-14.
17. Lett-Brown, M.A., Thueson, D.O., Plank, D.E., Duffy, L.K. and Grant, J.A. 1984. Histamine releasing activity (HRA) V. Characterization and purification using HPLC. *Cellular Immunol.* 87:445-451.
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