

## Gary R. Skuse, Ph.D.

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**Education:** B.A. Biology, 1979  
University of Rochester  
Rochester, New York

Embryology Course, summer of 1981  
Marine Biological Laboratory  
Woods Hole, Massachusetts

Ph.D. Biology, 1984  
Syracuse University  
Syracuse, New York

Title of Doctoral Dissertation: Developmental regulation of glycerol  
3-phosphate dehydrogenase expression in *Drosophila melanogaster*.

Summer Faculty Institute 2004  
Dartmouth College  
Ethical, Legal and Social Implications of the Human Genome Project

### Academic Experience:

June 1984-  
October 1986      Damon Runyon Walter-Winchell Postdoctoral Fellow  
Department of Biological Chemistry  
Harvard Medical School  
Boston, Massachusetts

November 1986-  
June 1998      University of Rochester School of Medicine and Dentistry  
Rochester, New York

Instructor in Medicine and Genetics  
Division of Genetics and Department of Medicine  
November 1986-December 1990

Assistant Director of Genetic Testing Laboratory  
Division of Genetics  
July 1990-February 1994

Scientist  
Division of Genetics and Department of Medicine  
January 1991-June 1991

Assistant Professor of Medicine, Genetics, Oncology and  
Radiation Oncology  
July 1991-June 1998

September 1988-  
September 1999      SUNY Empire State College  
Rochester New, York

Adjunct Lecturer in Science, Math and Technology  
September 1988-August 1994 and January 1999-September 1999

Tutor in Science, Math and Technology  
September 1994-December 1998

January 1998-  
June 2000      Adjunct Assistant Professor of Biology  
Monroe Community College  
Rochester, New York

September 1997-  
Present      Rochester Institute of Technology  
Rochester, New York

Adjunct Assistant Professor of Biological Sciences  
September 1997-June 2000

Visiting Associate Professor of Biological Sciences  
Director of Bioinformatics  
July 2000-June 2003

Associate Professor of Biological Sciences  
Director of Bioinformatics  
July 2003- August 2008

Professor of Biological Sciences  
Director of Bioinformatics  
September 2008 – August 2009

Professor of Biological Sciences  
Interim Head, School of Biological and Medical Sciences  
September 2009 - present

**Teaching Experience:**

Syracuse University:

General Biology with Laboratory, one semester  
General Biology Laboratory, one semester  
Developmental Biology with Laboratory, two semesters  
Genetics Laboratory, three semesters

Empire State College:

Anatomy  
Anatomy and Physiology I and II  
Cell Biology  
Computer Applications in Biology  
Ethics in Biology and Medicine  
Fundamentals of Human Biology  
Genetics  
History of Medicine and Public Health  
Medical Microbiology  
Microbiology  
Molecular Biology  
Physiology  
Statistics

University of Rochester:

Graduate seminar entitled "Molecular Biology of Cancer", one semester  
Graduate reading course entitled "Growth Factors", one semester  
Graduate seminar entitled "Extrinsic Factors and the Genetics of Cancer", one semester  
Graduate seminar entitled "Neurofibromatosis"  
Lectures on Molecular Genetics in the course entitled "Genetics" for medical students  
Lectures on Molecular Biology in the course entitled "Radiobiology" for residents  
Director of Section on Carcinogenesis, Toxicology Core Course  
Supervision of sixteen graduate students performing rotation projects  
Supervision of eleven undergraduate students performing independent research

Rochester Institute of Technology:

Bioinformatics Seminar (graduate level)  
Biology Seminar (upper level)  
Case Studies in Genomics (graduate level)  
Cell and Molecular Genetics I and II (graduate level)  
Cell Biology (lower level)  
Cell Physiology with Laboratory (and associated website, upper level)  
Ethical Foundations in Human Subjects Research (graduate level)  
Ethics in Bioinformatics (graduate level)  
General Biology Laboratory (lower level)  
General Physiology Laboratory (lower level)  
Human Biology Laboratory (lower level)  
Introduction to Bioinformatics (lower level)  
Introduction to Cell Biology Laboratory (lower level)  
Independent Research (upper level)  
Molecular Biology (lower level)  
Nanoscience, Engineering and Technology (upper level)  
Physiology and Anatomy I and II (with associated website, upper level)  
Research Explorations in Genomics (upper level)

Science Fiction, Science and Society (upper level)  
Science of Forensics (honors course)  
Tissue Culture Laboratory (upper level)  
Truth and Consequences (upper level)  
Unix Under the Hood (lower level)  
Visionaries in Motion (lower level)

Monroe Community College:

Biology of HIV and AIDS  
Genetics  
Genetics (online course)  
Human Machine  
Human Machine (online course)  
Introduction to Biotechnology

Contractual Services:

Preparation and review of examination questions for a nationally administered professional college admissions test  
Review of forensic DNA analyses for regional attorneys

Graduate Students:

Linda J. Metheny, Ph.D. received July 1996, M.S. received Spring 1994  
Amedeo J. Cappione, Ph.D. received August 1999, M.S. received Spring 1995  
Brian L. French, M.S. received Fall 1996  
James Thompson, M.S. received Spring 2005  
Jamie L. Duke, M.S. received Spring 2006  
Renikko Alleyne, M.S. received Spring 2006  
Matthew Wronkowski, M.S. received summer 2007  
Melissa Wilbert, M.S. received Summer 2008  
Sherry Dadgar, M.S. received Fall 2008  
Anusha Kannan, M.S. received Winter 2008  
Madhu Panneerselvam, M.S. received Spring 2009  
Ashlee Benjamin, M.S. received Spring 2009  
Rhea Sanchez, M.S. received Spring 2009  
Brandon Marzullo, M.S. received Spring 2010  
Zhe Wang, M.S. received Summer 2010

**Grants and Awards Received:**

Grant in Aid of Research from Sigma Xi, the Scientific Research Society entitled: Differences in the messenger RNA species which code for the enzyme glycerol 3-phosphate dehydrogenase in larval and adult *Drosophila melanogaster*. July 1982-June 1983. Total project cost: \$2,000.

Postdoctoral Fellowship from the Damon Runyon-Walter Winchell Cancer Fund entitled: Structure and function of the genes encoding enzymes involved in mRNA metabolism in vaccinia. June 1984-November 1986. Total project cost: \$54,000

Institutional Research Grant from the American Cancer Society through the University of Rochester Cancer Center entitled: Tumor suppressor genes in Neurofibromatosis. July 1988-June 1989. Total project cost: \$7,000.

Research Grant from the G. Harold and Leila Y. Mathers Charitable Foundation entitled: Molecular Genetics of Hereditary Predisposition to Cancer. January 1989-December 1990. Total project cost: \$75,000.

FIRST Award from the National Institutes of Health entitled: Molecular Pathogenesis of Tumors in Neurofibromatosis. July 1991-June 1997. Total project cost: \$560,000

Biomedical Research Support Grant entitled: Genetic linkage of a von Hippel Lindau disease variant. January 1992-December 1992. Total project cost: \$5,000

Research Grant from Cancer Action, Inc. entitled: Molecular characterization of a neurofibromatosis tumor cell line. July 1, 1992-June 30, 1993. Total project cost: \$9,000.

Research Grant from the Buffalo Rochester Syracuse Neurooncology Research Group entitled: Investigation of NF1 mRNA editing in CNS tumors. April 1996-March 1997. Total project cost: \$5,000.

Research Grant from the Charlotte Geyer Foundation entitled: Molecular Pathogenesis of Tumors in Neurofibromatosis Type I. July 1, 1996-June 30, 1997. Total project cost: \$100,000.

Research Grant from The Council for Tobacco Research entitled: Factors Involved in Human RNA Editing. January 1, 1997-December 31, 1999. Total project cost: \$250,000.

Research Grant from the National Institutes of Health entitled: Molecular pathogenesis of Tumors in Neurofibromatosis. May 1997-April 2000. Total project cost:\$700,000.

Grant to develop a Professional Master's Degree program in Bioinformatics/ Computational Biology from the Alfred P. Sloan Foundation. April 1, 2001-December 31, 2003. Total project cost: \$150,000.

Course, Curriculum and Laboratory Improvement (CCLI) grant from the National Science Foundation entitled: Bioinformatics Computing: An Exportable Curriculum. January 2002-January 2004. Total project cost: \$74,842 plus supplements of \$31,227 and \$36,754 to present Bioinformatics Workshops during the summers of 2002 and 2003.

Shared University Research (SUR) grant from IBM to establish the IBM Center for Comparative and Evolutionary Genomics at RIT. Approximate value \$217,000.

NUE: Development and Dissemination of a Sophomore Course in Nano-Science, Engineering and Technology grant from the National Science Foundation. Total project cost: \$99,876. July 1, 2004-June 30, 2006.

Grant entitled Addressing the Need for a Curriculum Standard in Bioinformatics from the Alfred P. Sloan Foundation. Total project cost: \$43,900. August 1, 2004 – December 31, 2005.

New York State Excelsior Scholars Programs for Grade Seven Mathematics and Science Students. Total project cost: \$160,860. May 1, 2008 – October 31, 2008.

### **Ad Hoc Reviews:**

Journals:	American Journal of Human Genetics Genetic Analysis: Techniques and Applications Human Molecular Genetics International Journal of Radiation Oncology, Biology, Physics International Journal of Plant Genomics (Guest co-editor) Journal of Cellular Physiology Journal of Neuro-oncology Journal of Neuropathology and Experimental Neurology The Lancet Tissue Engineering
Funding Agencies:	National Institutes of Health (Ad Hoc Technical Review Group) National Science Foundation (ATE, CCLI, RCN and Science Master's programs) Neurofibromatosis, Inc. US Army Medical Research and Development Command (NF Evaluation Panel member, 1993 program) US Army Medical Research and Development Command (Site Visit Team Chairman, 1993 program) US Army Medical Research and Development Command (NF Evaluation Panel Chairman, 1993 program) US Army Medical Research and Development Command (NF Peer Review Panel member, 1997, 1998 and 1999 programs) National Science Foundation (Advanced Technology in Education program) Lyttmos Group, Inc. (Lee's Summit, MO)
Program/ Curricular:	University at Buffalo Bioinformatics Program Canisius College Bioinformatics Program George Washington University Science Education Program in Computational Molecular Biology (site visit) Montclair State University Science Informatics (site visit) College Board AP Biology Curriculum Revision Finger Lakes Community College Biotechnology Program (site visit)

## **Professional Memberships**

New York State Defenders Association

### **Invited Lectures:**

#### Regional Meetings

July 2001: "DNA and the Law" at the annual meeting of the New York State Defenders Association, Lake George, New York

December 2001: "DNA and the Law" at the regional meeting of the New York State Defenders Association, Rochester Institute of Technology

January 2003: "Bioinformatics Curriculum Development" at the inaugural meeting of the Western New York Bioinformatics Educators, Buffalo, New York

October 2004: "Bioinformatics: Opportunities in Education and Research" at the annual meeting of the Consortium for Computing Sciences in Colleges, Eastern Conference, Baltimore, MD

April 2006: "DNA Analyses in the Crime Lab: The Science Underlying the Profile" at the Criminal Defense Tactics and Techniques VIII sponsored by the New York State Defenders Association, Rochester, NY.

March 2009: "Biotechnology in the Information Age", Rochester Museum and Science Center, Part of Science on the Edge lecture series.

October 2009: "Biotechnology in the Information Age", Genesee Community College, 2<sup>nd</sup> Annual Biotechnology Conference keynote address.

April 2011: "DNA for Dummies: A basic overview of the science of DNA for lawyers" at the meeting entitled Cutting Edge Criminal Defense presented by the New York State Defenders Association in Binghamton, NY.

#### National Meetings

October 1993: "Genetic Mechanisms in NF1 Malignancies" at the University of Chicago Medical School

October 1993: "Malignancy in Neurofibromatosis" at "Neurofibromatosis in Adults: Do the problems end in childhood?", Naperville, Illinois

October 1997: "Post-Transcriptional Regulation of Gene Expression" National Institutes of Health, Bethesda, Maryland.

February 2003: "Meeting the Challenges in Emerging Areas: Education Across the Life, Mathematical, and Computer Sciences" Panel participant. Bethesda, Maryland.

October 2003 "What are we teaching when we teach 'bioinformatics'? How do we modify content choice and pedagogical approach for different target audiences?", Bio21 Conference, Chapel Hill, NC.

### International Meetings

February 1996: "Gene Therapy for Gastric Cancer" and co-chair of the workshop on pathogenesis at "*Helicobacter pylori* and Gastric Cancer: State of the Art", Ulm Germany.

January 2003: Bioinformatics Education Panel Participant at the Pacific Symposium on Biocomputing, Lihue, HI.

March 2004: "The Role of Bioinformatics in Computer Science" Special Interest Group for Computer Science Education (SIGCSE), Norfolk, VA

### Workshops Organized and Presented

June 2000: "Enzyme Stability" at Rochester Institute of Technology

April 2001: "DNA and the Law" at Rochester Institute of Technology

July 2002: "Bioinformatics" at Rochester Institute of Technology

August 2002 and July 2003: "Bioinformatics Workshop for Educators" (NSF Sponsored) at Rochester Institute of Technology

March 2003 "Bioinformatics for Computer Scientists" Special Interest Group for Computer Science Education (SIGCSE), Norfolk, VA

April 2004: "Bioinformatics Basics for Computer Scientists" a workshop presented at third Consortium for Computing Sciences in Colleges Northeastern Conference, Schenectady, NY

February 2005: "Bioinformatics Basics for Computer Scientists" Special Interest Group for Computer Science Education (SIGCSE), St. Louis, MO

June 2009: "Fundamentals of Tissue Culture" at Rochester Institute of Technology

June 2009: "Fundamentals of Tissue Culture" at Rochester Institute of Technology

August 2009: "Fundamental Molecular Biology in Bioprocessing Operations" at Rochester Institute of Technology

### **Community Projects:**

Science Action at Northside Elementary School in Fairport, New York  
Charter member of planning and implementation team

Science in Action presentations at Northside Elementary School in Fairport, New York

Annual presenter

Science Exploration Days at St. John Fisher College in Rochester, New York  
Annual participant (lectures and exhibits) since 1995

“Bring Your Child to Work Day” at Wyeth-Lederle in Rochester, New York  
Design and implement annual program in 1997 and 1998 (as consultant)

Member of the Advisory Board, Center for Biotechnology Education and Training at  
Rochester Institute of Technology

Member of the External Advisory Board for the Bioinformatics program at Canisius  
College

Served as “expert” in Bioinformatics education for the Bio-IT World online “Ask the  
Expert” column

Member of the Science and Technology Advisory Council for the Academic Center for  
Integrated Biological, Chemical and Technological Sciences at Niagara  
University

Member of the Institutional Biosafety Committee, Vaccinex, Incorporated.

Member of the Institutional Biosafety Committee, University of Rochester Medical  
Center

Member of the Core Working Group for the Caroline Werner Gannett Project at  
Rochester Institute of Technology

Member of the Community Education Advisory Board, Center for Bioscience Education  
and Technology at Rochester Institute of Technology

Member of the Workforce Development Advisory Board, Center for Bioscience  
Education and Technology at Rochester Institute of Technology

Chair, Institutional Biosafety Committee at Rochester Institute of Technology

Member of the Board of Directors, Rochester Amateur Radio Association

**Publications:**

Sullivan, D.T., Donovan, F.A. and Skuse, G. (1983). Developmental regulation of glycerol  
3-phosphate dehydrogenase synthesis in *Drosophila*. *Biochem. Genet.* 21, 49-62.

Skuse, G.R. and Sullivan, D.T. (1985). Developmentally regulated alternate modes of  
expression of the *Gpdh* locus of *Drosophila*. *EMBO J.* 4, 2275-2280.

Rowley, P.T. and Skuse, G.R. (1987). Oncogene expression in myelopoiesis. *Int. J. Cell  
Cloning* 5, 255-266.

Blennerhassett, G.T., Furth, M.E., Anderson, A., Burns, J.P., Chaganti, R.S.K., Blick, M., Talpaz, M., Dev, V.G., Chan, L.C., Wiedemann, L.M., Greaves, M.F., Hagemeijer, A. van der Plas, D., Skuse, G., Wang, N. and Stam, K. (1988). Clinical evaluation of a DNA probe assay for the Philadelphia ( $ph^1$ ) translocation in chronic myelogenous leukemia. *Leukemia* 2, 648-657.

Skuse, G.R. and Rowley, P.T. (1989) Tumor suppressor genes and inherited predisposition to malignancy. *Seminars in Oncology* 16, 128-137.

Skuse, G.R., Kosciolk, B.A. and Rowley, P.T. (1989) Molecular genetic analysis of tumors in von Recklinghausen neurofibromatosis: Loss of heterozygosity for chromosome 17. *Genes, Chromosomes and Cancer* 1, 36-41.

Wang, N., Cedrone, E., Skuse, G.R., Insel, R. and Dry, J. (1990) Two identical active X chromosomes in human mammary carcinoma cells. *Cancer Genet. Cytogenet.* 46, 271-280.

Wang, N., Cedrone, E., Skuse, G.R., Schwartz, C. and Derylak, S. (1990) Transposition of the oncogene *ets1* in t(11;19) translocation in acute leukemia. *Cancer Genet. Cytogenet.* 50, 199-205.

Skuse, G.R. and Rowley, P.T. (1991) "Tumor Suppressor Genes and Human Neoplasia" in *Biochemical and Molecular Aspects of Selected Tumors* (T.P. Pretlow and T.G. Pretlow eds.) Academic Press, Orlando, FL, pp 1-23.

Skuse, G.R., Kosciolk, B.A. and Rowley, P.T. (1991) The neurofibroma in von Recklinghausen neurofibromatosis has a unicellular origin. *Am. J. Hum. Genet.* 49, 600-607.

Ludlow, J.W. and Skuse G.R. (1994) "Tumor Suppressors: Involvement in Human Diseases, Viral Protein Interactions, and Growth Regulation". The R.G. Landes Company, Georgetown, TX. (ISBN 1570591059)

Ludlow, J.W. and Skuse, G.R. (1995) Viral oncoprotein binding to pRB, p130, and p300. *Virus Research*, 35, 113-121.

Skuse, G.R. and Ludlow, J.W. (1995) The role of tumor suppressor genes in disease and their potential for gene therapy. *The Lancet* 345, 902-906.

Metheny, L. J., Cappione, A.J. and Skuse, G.R. (1995) Genetic and epigenetic mechanisms in the pathogenesis of neurofibromatosis type I. *J. Neuropathol. Exp. Neurol.* 54, 753-760.

Skuse, G.R., Cappione, A.J., Sowden, M., Metheny, L.J. and Smith, H.C. (1996) The Neurofibromatosis type I messenger RNA undergoes base-modification RNA editing. *Nucl. Acids Res.* 24, 478-486.

Metheny, L.J. and Skuse, G.R. (1996) NF1 mRNA isoform expression in PC12 cells: Modulation by extrinsic factors. *Exp. Cell Res.* 228, 44-49.

Cappione, A.J., French, B.L. and Skuse, G.R. (1997) A potential role for NF1 mRNA editing in the pathogenesis of NF1 tumors. *Am. J. Hum. Genet.* 60, 305-312.

Skuse, G.R. and Cappione, A.J. (1997) RNA processing and clinical variability in neurofibromatosis type 1 (NF1). *Hum. Mol. Genet.* 6, 1707-1712.

Skuse, G.R. (1998) Identification of an insertion and accompanying deletion in exon 31 of the neurofibromatosis type 1 gene. *Hum. Mutn. Supplement 1*, S50-S52.

Metheny, L.J. and Skuse, G.R. Protein synthesis inhibitors lead to increased levels of murine type I and type III NF1 mRNA isoforms. (in preparation).

Cappione, A.J. and Skuse, G.R. NF1 mRNA editing by the apoB catalytic component 1: evidence for the role of gene-specific auxiliary proteins (submitted for publication).

Haake, A.R. and Skuse, G.R. Formulating Bioinformatics Curricula. *Conf. for Info. Technol. Curriculum.* 2002

Polansky, H. (2003) Microcompetition with foreign DNA and the origin of chronic disease. (Skuse, G.R. ed.) *Center for the Biology of Chronic Disease*, Rochester, NY. (ISBN 0974046302)

Burhans, D. T., Campbell, A.E.R. and Skuse, G.R. Exploring the role of knowledge representation and reasoning in biomedical text understanding. Working notes of the SIGIR '03 Workshop on Text Analysis and Search for Bioinformatics, Toronto, August 2003.

Burhans, D.T. and Skuse, G.R. The role of computer science in undergraduate bioinformatics education. Working notes of the 2004 SIGCSE symposium, Norfolk, VA, March 2004.

Lyshevski, S.E., Andersen, J.D., Boedo, S., Fuller, L., Raffaele, R., Savakis A. and Skuse, G.R. "New Nano-Science, Engineering and Technology course at the Rochester Institute of Technology," *Proc. ASEE Conf. Engineering on the Edge: Engineering in the New Century*, Binghamton, NY, pp. section E.5.1-E.5.6, 2005.

Lyshevski, S.E., Andersen, J.D., Boedo, S., Fuller, S., Raffaele, R., Savakis, A. and Skuse, G.R. Multidisciplinary undergraduate nano-science, engineering and technology course. *Proc. IEEE Conference on Nanotechnology*, Cincinnati, OH, 399-402, 2006.

Lopatto, D., Alvarez, C., Barnard, D., Chandrasekaran, C., Chung, H.-M., Du, C., Eckdahl, T., Goodman, A.L., Hauser, C., Jones, C.J., Kopp, O.R., Kuleck, G.A., McNeil, G., Morris, R., Myka, J.L., Nagengast, A., Overvoorde, P.J., Poet, J.L., Reed, K., Regisford, G., Revie, D., Rosenwald, A., Saville, K., Shaw, M., Skuse, G.R., Smith, C., Smith, M., Spratt, M., Stamm, J., Thompson, J.S., Wilson, B.A., Witkowski, C., Youngblom, J., Leung, W., Shaffer, C., Buhler, J., Mardis, E. and Elgin, S.C.R. Genomics education partnership. *Science* 322, 684-685, 2008.

Skuse, G.R. and Du, C. Bioinformatics Tools for Plant Genomics (Editorial) *Int. J. Plant Genomics* 2008, Article ID 910474, 2 pages, 2008. doi:10.1155/2008/910474.

Shaffer, C.D., Alvarez, C., Bailey, C., Barnard, D., Bhalla, S., Chandrasekaran, C., Chandrasekaran, V, Chung, H.-M., Dorer, D.R., Du, C., Eckdahl, T.T., Poet, J.L., Frohlich, D., Goodman, A.L., Gosser, Y., Hauser, C., Hoopes, L.L.M, Johnson, D., Jones, C.J., Kaehler, M,

Kokan, N., Kopp, O.R., Kuleck, G.A., McNeil, G, Moss, R., Myka, J.L., Nagengast, A., Morris, R., Overvoorde, P.J., Shoop, E., Parrish, S., Reed, K., Regisford, E.G., Revie, D., Rosenwald, A.G., Saville, K., Schroeder, S., Shaw, M, Skuse, G., Smith, C., Smith, M., Spana, E., Spratt, M., Stamm, J., Thompson, J.S., Wawersik, M., Wilson, B.A., Youngblom, J., Leung, W., Buhler, J., Mardis, E.R., Lopatto, D., Elgin, S.C.R. The Genomics Education Partnership: Successful Integration of Research into Laboratory Classes at a Diverse Group of Undergraduate Institutions. *CBE – Life Sciences Education*, 9, 55-69.

### **Book Reviews, Letters, and Editorials:**

Skuse, G.R. (1990) Technical Comment in *Science* 250, 1749 1990.

Skuse, G.R. (1991) "Principally Genetics" a book review of *Principles of Medical Genetics* by T.D. Gelehrter and F.S. Collins. *Genetic Anal.: Techn. and Appl.* 8, 111-112.

Skuse, G.R. (1996) The search for prognostic indicators of cancer recurrence. *Int. J. Radiation Oncology Biol. Phys.* 34 509-510.

Skuse, G.R. (1998) book review of *Neurofibromatosis Type 1 in Childhood* by K. North. *J. Neuropathol. Exp. Neurol.* 57, 170.

Skuse, G.R. (2000) book review of *Neurofibromatosis : Phenotype, Natural History, and Pathogenesis* by J.M Friedman, D.H. Gutmann, M. MacCollin and V. M. Riccardi (third edition). *J. Neuropathol. Exp. Neurol.* 59, 749.

### **Abstracts Published:**

Rowley, P.T., Kosciulek, B.A. and Skuse, G.R. The neurofibromatosis-1 gene may encode a tumor suppressor. UCLA Symposium, Steamboat Springs, CO, February 1990, *J. Cell. Biochem.* 14C 1990.

Skuse, G.R., Kosciulek, B.A. and Skuse, G.R. Identification of an insertion in exon four of the von Recklinghausen neurofibromatosis gene, a putative tumor suppressor gene. UCLA Symposium, Keystone, CO, January 1992, *J. Cell. Biochem.* 16B, 1992.

Skuse, G.R. and Woolf, P.D. Identification and analysis of a von Hippel Lindau disease variant. *Clinical Research*, 41, 392a, 1993.

### **Abstracts Presented:**

Leary, J.F., Rowley, P.T., Skuse, G.R., Giuliano, R., LaBella, S. and Farley, B. Induced hematopoietic differentiation and commitment in multipotent K562 erythroleukemia cells by multi-color immunofluorescence detection of oncogene products and differentiation antigens. XII International Meeting of the Society for Analytical Cytology, Cambridge, England. August 1987.

Leary, J.F., Skuse, G.R., Farley, B., Giuliano, R., LaBella, S. and Rowley, P.T. Analysis of induced differentiation of K562 multipotent human leukemic cells by multicolor

immunofluorescent flow cytometric detection of differentiation antigens and oncogene products. American Society of Hematology. October 1987.

Skuse, G.R., Kosciulek, B.A. and Rowley, P.T. DNA analysis of tumors in neurofibromatosis. National Neurofibromatosis Foundation Symposium, New York, New York. May 1988.

Skuse, G.R., Kosciulek, B.A. and Rowley, P.T. Loss of heterozygosity in neurofibrosarcomas in neurofibromatosis. Fourth Annual Conference on Oncogenes. Fredrick, MD. July 1988.

Weber, S.C., Leary, J.F., Skuse, G.R., Gumina, C.F., Farley, B.A., Lalik, P., Gumina, R., LaBella, S. and Rowley, P.T. Anti-sense *myc* oligonucleotide reduces clonogenicity, cycling, and myeloid differentiation antigen content of HL60 cells. Third Conference on Differentiation Therapy, Sardinia. September 1988.

Rowley, P.T., Skuse, G.R. and Kosciulek, B.A. Loss of heterozygosity for chromosome 17 in neurofibrosarcoma in neurofibromatosis. American Society of Human Genetics. October 1988.

Wang, N., Cedrone, E., Skuse, G.R., Bennett, J.M., Frantz, C.N. and Rowe, J.M. A comparative study for the molecular and cytogenetic detection of the Ph<sup>1</sup> translocation. American Society of Human Genetics. October 1988.

Wang, N., Cedrone, E., Skuse, G.R. and Schwartz, C. and Derylak, S. Transposition of the oncogene *ets1* in t(11;19) translocation occurring in acute leukemia. American Society of Hematology. June 1989.

Wang, N., Skuse, G.R., Insel, R. and Cedrone, E. The abnormal X chromosome composition and state of activity in human mammary tumor cells. American Society of Human Genetics. November 1989.

Weber, S.C., Lalik, P.H., Farley, B.S., Skuse, G.R. and Rowley, P.T. Clonogenic response of HL60 cells to granulocyte-macrophage colony stimulating factor requires expression of the *fes* proto-oncogene. American Society of Hematology 1989.

Skuse, G.R., Kosciulek, B.A. and Rowley, P.T. Neurofibromas in neurofibromatosis-1 have a unicellular origin. First meeting on The Molecular Basis of Human Cancer, Fredrick, MD, June 1990.

Weber, S.C., Lalik, P.H., Farley, B.A., Skuse, G.R., Turner, D.H. and Rowley, P.T. Antisense to the *fes* proto-oncogene message blocks the proliferative signal of GM-CSF in HL60 cells. 2nd International Conference on Negative Regulators of Hematopoiesis, Providence, RI, August 1990.

Wang, N., Dry, J., Cedrone, E., Skuse, G.R., Metlay, L. and Bonfiglio, T. Mapping of chromosome 3p deletions specifically to the D3S3 locus in renal cell carcinoma. American Society of Human Genetics, October 1990.

Skuse, G.R., Kosciulek, B.A. and Rowley, P.T. Loss of heterozygosity in malignancies in von Recklinghausen neurofibromatosis: The allele remaining in the tumor is derived from the affected parent. American Society of Human Genetics, October 1990.

Skuse, G.R., Kosciolk, B.A. and Rowley, P.T. Molecular genetics of tumor formation in von Recklinghausen neurofibromatosis. International Congress of Human Genetics, October 1991.  
Metheny, L.J. and Skuse, G.R. Characterization of a novel NF1 tumor cell line, NFRL91. Meeting of the National Neurofibromatosis Foundation International Consortium on Gene Cloning and Gene Function for NF1 and NF2, April 1993.

Cappione, A.J., Metheny, L.J. and Skuse, G.R. Evidence for editing of the neurofibromatosis type 1 transcript. 1994 Albany Conference: RNA editing, an evolving mechanism of gene regulation, October 1994.

Skuse, G.R., Sowden, M., Smith, H.C. and Cappione, A.J. Neurofibromatosis type I (NF1) mRNA edits by a mooring sequence dependent apoB-like mechanism. 1995 Cold Spring Harbor Laboratory RNA Processing Meeting.

Metheny, L.J. and Skuse, G.R. Modulation of NF1 alternative transcript expression by extrinsic factors. The NNFF International Consortium for Molecular Biology of NF1 and NF2, July 1995.

Cappione, A.J. and Skuse, G.R. NF1 mRNA editing. IBC's Conference on Tumor Suppressors and Oncogenes, July 1997.

Skuse, G.R. RNA Processing in Neurofibromatosis Type I (NF1). NIH Post-Transcriptional Regulation of Gene Expression Symposium, October 1997.

Burhans, D.T., Skuse, G.R. and Campbell, A.E.R. Knowledge Representation and Reasoning with Biomedical Text. Poster presentation at the Frontiers In Bioinformatics conference, Buffalo, NY, June 2003.

Burhans, D.T., Skuse, G.R. and Campbell, A.E. R. Knowledge representation and reasoning for bioinformatics. 6<sup>th</sup> Annual TIGR Conference on Computational Genomics, Boston, MA October 2003.

Johnson, A. and Skuse, G.R. Identifying associations among neurological diseases using bioinformatics tools. Annual Biomedical Research Conference for Minority Students, San Francisco, CA, October 2006.

Johnson, A. and Skuse, G.R. Environmental effects on the rate of change in DNA sequences of complex organisms. Annual Biomedical Research Conference for Minority Students, Austin, TX, November 2007.

Skuse, G.R., Osier, M.V., Marchetti, C. and Dadgar, S. Estimating genomic diversity of the cleavage site peptides among H5HA avian influenza ameliorates the synthesis of influenza vaccine. International Society of Computational Biology/European Conference on Computational Biology, Stockholm, Sweden. June 2009.

**Business Experience:**

June 1987- April 2005	Principal Consultant Biocom Services
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Fairport, New York  
Major projects include: Assessing Biotechnology in Western New York  
(funded by Empire State Development Corporation) at Rochester  
Institute of Technology

August 1995-  
December 2004 Chief Information Officer (and founding partner)  
GenNet Information Systems, Inc.  
Fairport, New York

April 2004-  
Present Advisory Board Member  
Microsystems and Nanotechnologies

May 2005-  
Present Managing Member and Principal Consultant  
Biocom Services, LLC  
Fairport, New York

July 2007 –  
Present Principal Communications Technology Consultant  
Airsupport, LLC  
Canandaigua, New York

### **Computers and Information Management Experience:**

Academic: University of Rochester Integrated Academic Information Management  
1995-1997 System (IAIMS) Project  
Member of Basic Science Research committee during planning phase  
Contributed to design of project implementation plan  
  
Member of “Mock Site Visit Committee”  
served as “expert” in preparation for visit from team from the National Library  
of Medicine

1993-1997 Designed course entitled “Molecular Biology Resources on the Internet” for the  
University of Rochester’s library (composed and updated course syllabus)

Business: Chief Information Officer and founding partner of GenNet Information Systems, Inc.  
1995-2004 Design and implement commercial websites (including several with integral  
databases)  
Specify and approve equipment purchases  
Design and implement network architecture  
Compose and edit information content  
Design and implement secure mail services

Bioinformatics Wisconsin Package (Genetics Computer Group)  
Software: NCBI suite (BLAST, ENTREZ, OMIM, Pub-Med)

Operating Windows 95, 98, NT (server and workstation), 2000, XP Professional, Windows 7,  
Systems: Linux, Mac OS X and Solaris 8, 9 and 10

**US and European Patents Written** (for Sci Pharmaceuticals, Inc., Rochester, NY)

- Assays and methods based on microcompetition with a foreign polynucleotide
- Assays for drug discovery based on microcompetition with a foreign polynucleotide
- Diagnosis methods based on microcompetition for a limiting gabp complex
- Drug discovery assays based on microcompetition for a limiting gabp complex
- Treatment methods based on microcompetition for a limiting gabp complex
- Inhibition of microcompetition with a foreign polynucleotide as treatment of chronic disease
- Methods for chronic disease diagnosis based on microcompetition with a foreign polynucleotide
- Microcompetiton and human disease