CURRICULUM VITAE

Paul Shapshak, PhD
Email: pshapshak@gmail.com

PROFESSIONAL INFORMATION

USF CV
https://health.usf.edu/medicine/internalmedicine/infectious/profiles/pshapsha

New books:
***In Progress*, 2022 (C. Somboonwit, MD, Editor-in-Chief)**
Global Virology IV. VIROLOGY & CLINIC IN THE 21ST CENTURY. (Springer Publ. NY, NY)

***In Progress*, 2023 (P. Shapshak, PhD, Editor-in-Chief)**
Global Virology V. VIROLOGY & VACCINES IN THE 21ST CENTURY. (Springer Publ. NY, NY)

***In Progress*, 2024. Giunta B, Fernandez F, Minagar A, Alekseeva N, and P. Shapshak, Neuropsychiatric aspects of prion disease. In Comprehensive Textbook of Psychiatry, Edited by BJ Sadock and VA Sadock, 2024, (Kluwer and Lippincott Publ. NY, NY)**

Research Gate (RG) Standardized International Professional score information (2021)
https://www.researchgate.net/profile/Paul_Shapshak/stats
PUBLICATIONS LISTED 370
RG SCORE: 42.32
PERCENTILE: 97.5
READS: 48,484
CITATIONS: 6,257
RECOMMENDATIONS: 14
1st most read publication: Article – Zika virus.
1st most read book: Book - Global Virology II – HIV & NeuroAIDS.
IMPACT POINTS 584.95
PROFILE VIEWS: 444
FOLLOWERS: 142

PSYCHOLOGICAL PROFILE
(Global international percentiles: Lumosity, an objective daily testing profile)

Overall cognition:	99.0%
Problem solving:	99.4%
Speed:	98.7%
Memory:	97.9%
Attention:	97.6%
Flexibility:	97.1%
Math:	96.2%
New vocabulary words:	7,011

EDUCATION:

1955 - 1959	High School of Music and Art, NY, NY (Now LaGuardia High School of the Arts at Lincoln Center)
1959 - 1963	BA, Harvard College, Cambridge, (Biochemical Sciences)
1963 - 1964	New York University Medical Center Graduate School, NY, NY (Biochemical Sciences)

1964 - 1969	PhD, Princeton University, Princeton, NJ (Biochemical Sciences)
1969-1972	Fellowship, Center for Radiophysics and Space Research, Cornell University, Ithaca, NY (Astrobiology, Astrovirology, Planetary atmospheres, Communication)
1972 - 1973	Fellowship, University of Wisconsin, Madison, WI (Molecular Virology, Electron Microscopy)
1973	Fellowship, Litton Bionetics, Inc. Fort Detrick, MD (Electron Microscopy)
1973 - 1975	Staff Fellow, NIH (NICHHD), Bethesda, MD (Molecular Biology)
1976 - 1977	Felowship, UCLA Medical Center, Los Angeles, CA (Molecular Virology)

PRESENT POSITION:

UNIVERSITY OF SOUTH FLORIDA MORSANI COLLEGE OF MEDICINE
Adjunct Professor
Department of Internal Medicine (Division of Infectious diseases and International Medicine)

POSITIONS HELD:

June 2007-May 2012 — UNIVERSITY OF SOUTH FLORIDA MORSANI COLLEGE OF MEDICINE
Research Professor
Department of Internal Medicine (Division of Infectious diseases and International Medicine)
Department of Psychiatry and Behavioral Medicine

December 1992-April 2007 — UNIVERSITY OF MIAMI MILLER MEDICAL SCHOOL
Research Professor
Director, Dementia/Retrovirology Laboratory
Departments of Psychiatry and Behavioral Sciences, Neurology, and Pathology
Comprehensive Drug Research Center
Department of Pediatrics, McDonald Foundation GeneTeam

September 1990-November 1992 — UNIVERSITY OF MIAMI MILLER MEDICAL SCHOOL
Research Associate Professor
Departments of Psychiatry, Neurology, Pathology
Comprehensive Drug Research Center

September 1988-August 1990 — MOUNT SINAI MEDICAL CENTER
Chief of Molecular Viral Pathology, Pearlman Research Center

October 1988-August 1990 — UNIVERSITY OF MIAMI MEDICAL SCHOOL
Adjunct Associate Professor
Departments of Neurology and Pathology

July 1986-August 1988 — UCLA SCHOOL OF MEDICINE AND
HARBOR-UCLA MEDICAL CENTER
Adjunct Associate Professor
Departments of Neurology and Pediatrics

February 1981-August 1988 — VETERANS ADMINISTRATION
WEST LOS ANGELES MEDICAL CENTER
WADSWORTH DIVISION
Los Angeles, California 90073
Neurology Service, 127A

Chief, Molecular Virology and Immunology
GS-13 (US Gvmnt)

November 1983-August 1988 — UCLA JONSSON COMPREHENSIVE CANCER CENTER
Westwood, California 90024
Associate Member

1982 - 1986 — UCLA SCHOOL OF MEDICINE
MOLECULAR BIOLOGY INSTITUTE (MBI)
Associate Member

January 1979-June 1986 — UCLA SCHOOL OF MEDICINE AND HARBOR-UCLA
MEDICAL CENTER
Departments of Pediatrics and Neurology
Adjunct Assistant Professor

March 1984-May 1984 — UCLA
Departments of Chemistry, Molecular Biology, and Biochemistry
Acting Assistant Professor

February 1982-October 1983 — VETERANS ADMINISTRATION
WEST LOS ANGELES MEDICAL CENTER
WADSWORTH DIVISION
Neurology Service
Los Angeles, California 90073
Co-Director, National Neurological Research Bank
College of Pathology-approved laboratory
Molecular virology and Immunology of brain, CSF, and blood

February 1977-July 1978 — REDKEN R&D LABORATORIES, Inc.
14721 Califa Street
Van Nuys, California 91411
Manager of the R & D Biochecmistry Laboratory
Forensic biochemical sciences

July 1975-January 1977 — UCLA SCHOOL OF MEDICINE
Departments of Microbiology/Immunology and Pathology
Westwood, California 90024
Postdoctoral Fellow
Molecular retrovirology of primate leukemia viruses

July 1973-June 1975 — NATIONAL INSTITUTES OF HEALTH
National Institute for Child Health and Human Development
Bethesda, Maryland 20205
Staff Fellow
Molecular biology - transcription

March 1973-June 1973 — LITTON BIONETICS, Inc.
FREDERICK CANCER RESEARCH CENTER
(National Cancer Institute)
Ft. Detrick
Frederick, Maryland 21701
Senior Scientist, Advanced Systems Laboratory
Molecular structure and Electron Microscopy of mammalian viruses

March 1972-February 1973 — UNIVERSITY OF WISCONSIN
Madison, Wisconsin 53706
Postdoctoral Fellow, Biophysics Laboratory

Electron Microscopy of DNA and RNA bacteriophages

September 1971-February 1972 CORNELL UNIVERSITY
School of Engineering
Ithaca, New York 14853
Post-doctoral Fellow, Department of Applied Physics
Electron Microscopy of small molecules

September 1969-August 1971 CORNELL UNIVERSITY
Center for Radiophysics and Space Research (NASA)
Ithaca, New York 14853
Research Associate, Laboratory for Planetary Studies
Returned lunar samples, solar wind, origin of life, and astrobiology studies

RESEARCH INTERESTS (includes peer-reviewed publications and peer-reviewed awarded grants):

Astrovirology and vaccines.
Neutrinos, Extra-terrestrial Intelligence, and Inter-galactic communication.
Astrovirology and Extraterrestrial machines.
Developing Astrobiology/Astrovirology Academy training.
Biodefense.
Development, research, and use of Biocontainment technology and procedures, BSL I-III.
Molecular Neurovirology and Neuroimmunology.
Laboratory measures of virus infections and immunity.
Virus transmission models.
Virus infection risk and drug abuse.
HIV-1 replication and evolution.
Inactivation of HIV-1.
Laser Capture Microdissection (LCM) analysis of single cells.
LCM analysis of single chromosomes.
LCM analysis of viral sequences.

JOB DESCRIPTIONS AND RESPONSIBILITIES

HARBOR-UCLA MEDICAL CENTER

NeuroVirology, the involvement of canine distemper virus in chronic neurological diseases of dogs (in many ways an animal model of measles in sub-acute sclerosing panencephalitis (SSPE) of children and multiple sclerosis of adults. I showed there were different strains of these viruses. I then helped set up the first HIV-1 laboratory at UCLA and commenced HIV-1 replication studies in brain cell cultures. Techniques used were Virology (Measles virus, Canine Distemper Virus, HIV-1) isolation, quantification, and neutralization. Molecular Histopathology, *In situ* hybridization, Immunohistochemistry, Protein Immune precipitation and SDS-PAGE, oligopeptide mapping, HIV-1 p24, ELISA, HIV-1 Reverse Transcriptase (RT.) I wrote grants, papers, lectured, and served on committees. We were the first to demonstrate HIV in lymph nodes and kidney by *in situ* hybridization and to commence study of HIV-1 in brain as well as brain cell cultures.

REDKEN RESEARCH LABORATORIES

Forensic biochemical analysis of biological samples and patent development.

VETERANS ADMINISTRATION and UCLA SCHOOL OF MEDICINE

NeuroVirology and Neuroimmunology of chronic neurological disorders of humans including AIDS, Multiple Sclerosis, Alzheimer's disease, Schizophrenia, Huntington's disease, the encephalitides, PML, and SSPE. We studied intra-blood brain barrier (BBB) specific and non-specific IgG synthesis rate, integrity of the BBB, CSF inflammation, CSF oligoclonal banding, Molecular Histopathology, *In situ* hybridization, Immunohistochemistry, cloning, PCR, DNA, RNA. Virology (Measles virus, HSV-1, CMV, SV40, HTLV-1, SSAV, BEV) isolation and quantification. IEF and antigen specific immunofixation, ELISA, electroimmunodiffusion, blood-smears, cell counts, Immune precipitation and SDS-PAGE, differentials, and nephelometry.) I

wrote grants, papers, lectured, and served on committees. Member of Grant Review Committee at the VAMC. Member of Biohazards Review Committee at the VAMC. We competed for and received the first grant funded by the Army to study HIV-1 and the brain. This grant was later renewed in conjunction with the Army and the National Institute of Mental Health (NIMH).

Continued NeuroVirology of AIDS. Differential gene expression in NeuroAIDS, Alzheimer's disease. Genetics, bioinformatics, and network analysis of Gene expression. Systems biology.

MOUNT SINAI MEDICAL CENTER

NeuroVirology of AIDS. Techniques I used were: Molecular Histopathology, *In situ* hybridization-combined-Immunohistochemistry, cloning, PCR for DNA and RNA. Protein, HIV-1 p24, Western Blot, HIV-1 RT.) I wrote grants, papers, lectured, and served on committees.

UNIVERSITY OF MIAMI MILLER MEDICAL SCHOOL

NeuroVirology of AIDS, pathogenesis of HIV neurological disease in the brain and the periphery. Techniques used were Virology (HIV-1), isolation, quantification, Molecular Histopathology, *In situ* hybridization-combined-Immunohistochemistry, *In situ* PCR, Molecular Biology/Virology, PCR, nested, DNA, RNA, DNA quantitative, RNA quantitative (including Roche Amplicor Assay license), cloning, DNA sequencing of HIV-1 envelope gene. Protein, HIV-1 p24, Western Blot, HIV-1 total p24, HIV-1 RT. I wrote grants, papers, lectured, and served on committees.

With several funded grants from NIH (NIDA, NINDS, NIMH, and NIGMS) I commenced the use of new technologies in molecular virology and molecular biology, respectively. 1. Real Time PCR for quantification of HIV viral RNA. 2. Gene Arrays (of 55,000 representatives of 30,000 human genes) to examine differential gene expression in NeuroAIDS. 3. Laser capture micro-dissection of specific cells brain cells from human brain. Also, Bioinformatics and network analysis of Gene Expression data with University of Missouri. In addition, worked with Police Departments of Miami, FL, and Los Angeles, CA, in conjunction with forensic analysis of biological samples.

UNIVERSITY OF SOUTH FLORIDA MORSANI MEDICAL SCHOOL

Continued NeuroVirology of AIDS. Differential gene expression in NeuroAIDS. Bioinformatics and network analysis of Gene Expression. Emergent viruses. Influenza, Vaccines. Books on Global Virology. Volume 1 on Global issues of virology, completed and published (2015). Volume II on Global issues of HIV and NeuroAIDS completed and published (2017). Volume III on Global issues of 21st century virology and artificial intelligence complete and published (2019). Additional chapters and books in the works.

LICENSES (1988-2008**):**

DEA 1988-2008: RS0150754 & RS0150742

HONORS:

1959 - 1963	Harvard College Scholarship
1963 - 1964	New York University Medical Center Honors Program Scholarship in Biochemistry
1964 - 1969	NIH Predoctoral Fellowship, Biochemistry, Princeton University
1965 - 1969	Resident Fellow, Princeton University
1969	Travel Fellowship from the National Research Council, National Academy of Sciences, Washington, D.C., to attend the Third International Biophysics Congress, Massachusetts Institute of Technology, Cambridge, Massachusetts
1983-2008	Health Career Advisory Service, Faculty of Arts and Sciences, Harvard University
1983-1988	Associate Member, UCLA Jonsson Comprehensive Cancer Center

1986	Guest Lecturer (HIV Neuropathogenesis) Swedish Neuroscience Society Göteborg, Sweden
	and
	Guest Lecturer (AIDS) Medical Offices SAS Headquarters Copenhagn, Denmark
1992	Keynote address (HIV detection techniques) at the Annual meeting of the American Society of Microbiology (Florida Chapter)
1990-1994	AIDS Study Section (*ad hoc*), National Institute on Drug Abuse
1994-1998	AIDS Study Section (member), National Institute on Drug Abuse
1999-2008	NeuroAIDS Study Section Center for Scientific Review, NIH
July 7-12th, 1996	XIth International Conference on AIDS, Vancouver International Scientific Review Committee (member)
April 26th, 1999	Dean's Research Award, University of Miami School of Medicine
Since 2000	Annual International Conference on AIDS International Scientific Review Committee (member) & and International Preceptor
June 17th-22nd, 2001	College of Problems in Drug Dependence (CPDD), Scottsdale, AZ Symposium Chair, Drug Abuse, NeuroAIDS, and HIV evolution
July, 2002 & 2004	Science & Engineering Conf. on Cybernetics and Computer Technology Orlando, FL Symposium Chair, Gene expression, Drug Abuse, NeuroAIDS, and HIV evolution
April 26th & 27th, 2004	10th Anniversary Meeting of the NIMH Human Brain Project. Harvard University Computer modeling and Brain gene expression
2004	Harvard University Channing laboratories Statistics Society Brain gene expression
2006	International Post-Genetics Society (Founding Member)
2006	International AIDS Congress (XVIth), Toronto, CN Aug 13th-18th 2006 Member of Organizing Committee Track A Basic Research Co-Chairman of two sessions: 1. HIV Evolution and Heterogeneity. 2. Cytokines/Chemokines.
2011	Member, Board Association of Princeton Graduate Alumni, Madison Award (committee member) Princeton University

ACADEMIC COMMENT

At Harvard College (1959-1963) my molecular biology professors included Sir Francis Crick, John Cairns, James Watson, and Sydney Brenner.

MEMBERSHIPS (prior):

College of Problems in Drug Dependence (CPDD) (Founding Member)

Society for the Study of Drugs of Abuse, Immunity, and Neuroendocrine Axis (Founding Member)

American Society for Virology (ASV) (Founding Member)
International AIDS Society (Founding Member)
Society for Neuro-immuno-pharmacology
American Society for Microbiology (ASM) (and Florida Chapter)
National Tissue Culture Association
American Association for the Advancement of Science (AAAS)
Society for Bayesian Analysis
NIH Alumni Association

RESEARCH FELLOWSHIPS:

Investigator/Title/Source of Funding

Shapshak, P. and Jeanloz, R (Preceptor.)
Determination of the structure of the carbohydrate moiety of human alpha-2-macroglobulin.
Fellowship from Department of Biochemistry, Harvard University, Massachusetts General Hospital (MGH), Harvard Medical School, Summers of 1962 and 1963.

GRANTS AWARDED:

Principal Investigator/Title/Source of Funding

A. Paul Shapshak, PhD, Principal Investigator

1. Shapshak, P (PI) and Imagawa, D.T.
   Polypeptides of acute and persistent strains of canine distemper viruses
   Basic Research Stipend Grant (BRSG)-Research and Education Institute (REI), Harbor-UCLA Medical Center
   BRSG-REI, NIH 7/1/79-8/31/80

2. Shapshak, P (PI) and Imagawa, D.T.
   Persistent and acute canine distemper viruses: subcellular intermediates
   Basic Research Stipend Grant-Research and Education Institute, Harbor-UCLA Medical Center
   BRSG-REI, NIH 10/1/80-9/30/81

3. Shapshak, P (PI) and Imagawa, D.T.
   Gene expression of persistent and lytic strains of canine distemper virus
   BRSG-REI, NIH 11/1/80-10/31/81, Harbor-UCLA Medical Center

4. Shapshak P (PI), Tourtellotte WW, Fareed GC, Graves MC
   Identification and localization of measles virus genes in multiple sclerosis and control brains utilizing cloned complementary DNA probes.
   7/82-6/84, Basic Research Grant, Kroc Foundation

5. Shapshak P (PI), Tourtellotte WW, Delgado-Escueta AV
   HSV-1 genes involved in the pathology of partial epilepsies
   12/31/85-11/30/88, Sub-contract, Program Project Grant to Professor George E. Locke, Chair, Neurology, Drew-King Medical Center, NIH

6. Shapshak P (PI), Imagawa DT, and Sun N
   Replication of HIV in brain cell cultures
   9/1/87-8/31/88, RO1 Basic Research Grant, NIDA

7. Shapshak P (PI), Resnick L, and Nelson SJ
   Replication of HIV in brain cell cultures
   9/1/88-8/31/90, RO1 Basic Research Grant, NIDA

8. Shapshak P (PI), Tate L, and Nelson SJ
   Identification of HIV infected cells in AIDS CNS
   7/1/90-11/30/90, donation, Mary Jane Crowe Foundation

9. Shapshak, P (PI)
   Detection of HIV by *in situ* hybridization in CNS tissue infected with CMV
   7/1/90-3/1/91, subcontract from RO1 Basic Research Grant, Dr. R. Rhodes, PI, NIDA

10. Shapshak P (PI), Schiller P, and Nelson SJ
    Replication of HIV in brain cell cultures
    9/1/90-8/31/93, RO1 Basic Research Grant, NIDA

11. Shapshak P (PI), Virology Laboratory Development, 28/1/91, Institutional Equipment Fund Award. Flow CO_2 Incubator.

12. Shapshak P (PI), Virology Laboratory Development, 11/30/91, Award from Small Instrumentation Program, NIH. Class II Biohazard Hood.

13. Shapshak P (PI), Virology Laboratory Development, 2/4/92, Institutional Equipment Fund Award. DNA Sequencing gel blotter.

14. Shapshak P (PI) and Yoshioka M, Cytokines and the nervous system in AIDS, Dept. of Neurology, Tohoku University School of Medicine, Sendai, Japan (1992-1993)

15. Shapshak P (PI), Determination of the effect of oxandrolone alone and in combination with AZT, ddC, and ddI on HIV-1 replication in various human cell lines.
    10/1/1992 - 9/15/1993, contract, GYNEX Corporation

16. Shapshak P (PI), McCoy C, Duncan R, et al.
    Cocaine/cocaethylene/HIV in African-American women.
    07/15/1992 – 06/30/1999, RO1 Basic Research Grant, NIDA

17. Shapshak P (PI), et al.
    Replication of HIV in brain cell cultures
    9/1/1993-8/31/2000, RO1 Basic Research Grant, NIDA

18. Shapshak P (PI), Fenjves E, and Pastori R.
    Ribozyme-AAV Targeted Presenilin-1 Reduction in Neurons
    10/1/01-9/30/2002, RO3 Basic Research Grant, NIA

19. Shapshak P (PI) Gene Expression in HIV Associated Dementia Brain
    7/17/02-8/30/2005, R21 Basic Research Grant, NIDA

20. Shapshak, P, PI (Sub-contract)
    Bioinformatics in Neurodegenerative disease
    The parent grant PI is Dr. T. Kazic, Dept. of Computer Engineering and Computer Science, Univ. of Missouri, Columbia.
    Community Deposit and Review of Biochemical Databases
    9/1/2003-8/31/2008, RO1 Research Grant, 2RO1 GM056529 NIGMS

21. Shapshak P (PI), Xu W (Co-PI)
    siRNA HIV-1B Silencing in NeuroAIDS Patients
    Pilot Grant from the Allergy, Immunology & Infectious Disease Signature Program, USF Health.
    4/1/2008-3/31/2009

B. Paul Shapshak, PhD, Co-Investigator

1. Gilvarg, C. (Principal Investigator and Mentor) and Shapshak, P. Biosynthesis of L-lysine in *Bacillus megaterium* 1965-1969, Training Grant in support of PhD, NIGMH (NIH)

2. Imagawa, D.T. (Principal Investigator) and Shapshak, P.

Studies on various forms of chronic distemper encephalomyelitis
3/81-2/84, RO1 Basic Research Grant, NINDS (NIH)

3. Imagawa, D.T. (Principal Investigator), Shapshak, P., and other faculty,
Department of Pediatrics, Child Health and Developmental Biology
9/82-8/88, Training Grant, NINDS (NIH)

4. Tourtellotte, W.W. (Principal Investigator), Shapshak P., and R.W. Baumhefner
Multiple Sclerosis IgG: CNS Synthesis and Immunopharmacology
10/82-9/84, VA Merit Research Grant, Veterans Administration

5. Tourtellotte, W.W. (Principal Investigator), Shapshak, P., Delgado-Escueta, A.V. and G. C. Fareed
Search in Partial Epilepsies for HSV-1 Genes
9/83-8/85, Sub-project, Program Project Grant to Dr. A.V. Delgado-Escueta, UCLA School of Medicine (NIH)

6. Tourtellotte, W.W. (Principal Investigator), Shapshak, P., Baumhefner R.W.
Multiple sclerosis: Coordinated studies of etiology and treatment
10/84-4/88, renewed 5/88-4/93, VA Merit Research Grant, Veterans Administration

7. Imagawa DT (Principal Investigator) and Shapshak P
Immortalized T-lymphocytes from patients with pre-AIDS
11/1/84-6/30/85, contract, UCLA-NIH

8. Imagawa DT (Principal Investigator) and Shapshak P
The Natural History of Acquired Immune Deficiency Syndrome
1/1/85-12/31/88, contract, UCLA-NIH

9. Tourtellotte, W.W. (Principal Investigator) and Shapshak P
Nucleic acid and protein studies in MS
1985 and 1986, Gustafson Award Research Grant, UCLA

10. Sun NCJ, (Principal Investigator), Shapshak P & Imagawa DT
Identification of HIV antigens and nucleic acids in biopsied lymph nodes
1986-7, California University-wide Task Force on AIDS, Research Grant, UCLA

11. Tourtellotte W.W. (Principal Investigator) and Shapshak P
AIDS Brain: Molecular Tracing of HIV nucleic acid sequences and proteins
1986- 8, California University-wide Task Force on AIDS, Research Grant, UCLA

12. Saxon A, (Principal Investigator), Tourtellotte WW, Shapshak P
Consortium: Pharmacological studies in AIDS/ARC
1986-7, Clinical Center Grant, NIH

13. Tourtellotte, W.W. (Principal Investigator) and Shapshak P.
HTLV-III: Intra-BBB IgG synthesis and hybridization in CSF cells
9/87 to 8/90,
U.S. Army Research and Development Command,
Basic Research Grant

14. Imagawa, D.T. (Principal Investigator), Shapshak, P., and other faculty
Department of Pediatrics, Child Health and Developmental Biology
9/87-8/88, Training Grant, NINDS (NIH)

15. Tourtellotte, W. W. (Principal Investigator) and Shapshak, P
Use of PCR to detect HIV-1 in CSF and peripheral blood (matched) cells
7/87-9/88, UCLA AIDS CENTER, California University wide Task Force on AIDS

16. Resnick, L. (Director) and Shapshak, P.

Sub-project to perform virus isolation and Western Blots. Tourtellotte, W.W. (Principal Investigator) HTLV-III: Intra-BBB IgG synthesis and hybridization in CSF cells
9/88 to 2/90 U.S. Army Research and Development Command
Basic Research Grant

17. Resnick, L. (Director) and Shapshak, P.
Sub-project to perform virus isolation and *in situ* hybridization.
Morales, A. (Principal Investigator) HIV infection and cardiac disease
1988 to 1990, NIH

18. McCoy, C. (Principal Investigator) and Shapshak, P. Subproject to perform HIV virus isolation, inactivation, DNA sequencing, p24 antigen capture, and Western Blots from specimens from the University of Miami School of Medicine's Comprehensive Drug Research Center Outreach Programs,
1991-present, NIDA and CDC

19. Goodkin, K. (Principal Investigator), Shapshak, P, et al.
The impact of a bereavement support group in HIV infection,
7/1/1991 to 1/30/1997 (extended) RO1 Research Grant, NIMH

20. Goodkin, K. (Principal Investigator), Shapshak, P, et al.
Phase II study of the efficacy of peptide T in HIV-1 seropositive individuals with cognitive impairment,
12/1/1993 to 6/30/1994, NIMH

21. Bradley W (Co-PI) and Shapshak P (Co-PI),
Pathogenesis and cytokines in HIV sensory neuropathy.
2/1/1993-1/31/1997, RO1 Basic Research Grant, NINDS

22. McCoy CB (PI) and Shapshak P (Virology/Immunology Core Director)
HIV/Risk reduction within Drug Injecting Networks
6/1/95-5/31/98, RO1 Research Grant, NIDA

23. Petito C (PI) and Shapshak P, et al,
Neuropathogenesis of HIV encephalitis
9/1/96-8/31/01, RO1 Research Grant, NINDS

24. Goodkin, K. (Principal Investigator), Shapshak, P, et al.
The impact of a bereavement support group for women with HIV infection
4/1/97-3/31/02, RO1 Research Grant, NIMH

25. Weiss S. [PI] and Shapshak P (Virology Director)
Behavioral interventions for women with AIDS
12/1/97-6/30/99, supplement to RO1 Research Grant NIMH

26. Goodkin, K. (Principal Investigator), Shapshak, P, et al.
AIDS and Aging: indexes of progression,
8/1/98-7/31/03, RO1 Research Grant, NIMH

27. Petito C (PI) and Shapshak P, et al,
HIV Brain Sanctuary
9/1/99-8/31/04, RO1 Research Grant, NINDS

28. Kumar M (PI) and Shapshak P, et al,
AIDS in India: HIV-1 and HIV-2.
9/1/01-12/31/02, RO1 Research Grant NINDS

29. Page JB (PI) and Shapshak P (Co-PI), et al, HIV Infection Potential in IDU-related injection materials 7/1/00-6/30/04.
RO1 Research Grant, NIDA

30. Goodkin, K. (Principal Investigator), Shapshak, P, et al.
AIDS and Aging: indexes of progression,
8/1/04-10/31/04, RO1 Research Grant, NIMH

31. Colón, HM Ph.D. (Principal Investigator), Shapshak P (Consultant)
Drug Preparation Materials to Reduce HIV/HCV Transmission
8/15/2005 thru 11/1/2006, 1 R21 DA018600

32. Eddy Rios-Olivares, Ph.D., MPH. (Principal Investigator), Shapshak P (Consultant)
HIV and Substances of Abuse
08/01/2004 thru 11/1/2006, 2GM 12RR03035

C. Paul Shapshak, PhD, Preceptor.

1. UCLA Undergraduate fellowship
Ho, Phillip.
In situ hybridization in AIDS.
UCLA Division of Honors, Summers, 1986, 1987. Dr. P. Shapshak, supervisor, UCLA.

2. Advisor, University of Göteborg
Svenningsson, Anders, MD.
Replication and detection of HIV in AIDS CNS.
June 1989-July 1990, Research towards docent (PhD) degree at the Departments of Neurology and Clinical Chemistry, University of Göteborg School of Medicine, Göteborg, Sweden. Dr. P. Shapshak, supervisor, Mount Sinai Medical Center/University of Miami School of Medicine.

3. MS Thesis, Barry University
Rogers, Christopher G, The effects of Cocaine, Cocaethylene, and Ibogaine on HIV-1 replication, Master of Science Thesis, Barry University School of Graduate Study Dr. P. Shapshak, supervisor, University of Miami School of Medicine, 1996-1997.

4. Summer fellowship from Minority Physicians Program
Graham, Garth Detection of HIV in AIDS brain tissue and in needles/syringes from shooting galleries in Miami. University of Miami School of Medicine, Retrovirology Research Laboratory, Summer of 1998. Dr. P. Shapshak, supervisor, University of Miami School of Medicine.

5. U of Miami Undergraduate Howard Hughes Honors Program (2003- 2007)

Villamaria, Carole	Alzheimer's disease apoptosis (Magna cum laude, 2004)
Amaro, Eric	Alzheimer's disease apoptosis
Lewis, Apple	Drug Abuse Risk
Rodriguez, Hector	Bioinformatics of Brain Gene expression in dementia

COMMITTEES:

2003-2008	University of Miami McDonald Foundation GeneTeam
2000-2004	University of Miami Council in Biobehavioral Science, Drug Abuse Sub-Committee
1997-1999	The Faculty Senate, University of Miami
1997-1999	Dean's Committee of the Medical School Council, University of Miami School of Medicine
1997-1999	Medical School Council, University of Miami School of Medicine
1998-2000	Chairman of *ad hoc* committee to oversee Human Subject and animal use review procedures at the University of Miami
1998	Chairman of *ad hoc* sub-committee to oversee Finance and Tenure procedures at the University of Miami

1995-1997	Director, Neuroscience Research Program Committee, Department of Psychiatry, University of Miami School of Medicine
1994-2008	Member, Committee for Promotion and Tenure, Department of Psychiatry, University of Miami School of Medicine
1992-2008	Chairman, Colloquium in Retrovirology and Drug Abuse, Department of Psychiatry and CDRC, University of Miami School of Medicine
1992-2000	Member, Comprehensive Drug Research Center and Executive Committee, Comprehensive AIDS Program, University of Miami School of Medicine
1991-2008	Member, Research Committee, Department of Psychiatry, University of Miami School of Medicine
2000-2008	Assoc. Member, Center for Neurosciences, University of Miami School of Medicine
1991-1999	Member, Scientific and Clinical Affairs Committee of the University of Miami Brain Endowment Bank
1991-1992	Member, Recruitment Committee for Neuro-immunology and Neuro-virology Group, Department of Neurology, University of Miami School of Medicine
1990-1991	Member, Recruitment Committee for Retrovirology Group, Department of Microbiology/Immunology, University of Miami School of Medicine
1984-1988	Member, Research and Development Grants and Contracts Review Committee, VAMC West Los Angeles, Wadsworth Division
1987-1988	Member, Wadsworth umbrella review committee for the American College of Pathology (CAP)
1986-1987	*Ad Hoc* committee on grant review and research protocols, VAMC West Los Angeles, Wadsworth Division
1979-1983	Monthly Research Seminar Chairman, Department of Pediatrics, E-6, Harbor-UCLA Medical Center
1979-1982	Harbor-UCLA Medical Center Safety Committee

CLINICAL LABORATORY RESPONSIBILITIES:

1982 - 1988	The CSF Laboratory at VAMC West Los Angeles, Wadsworth Division, Neurology Service, approved by American College of Pathology (CAP.)
1991 - 1998	The Retrovirology Laboratory at the Department of Psychiatry, University of Miami School of Medicine. Member, certification program from the Centers for Disease Control (CDC.)

TEACHING RESPONSIBILITIES:

1. NeuroAIDS and other viral diseases of the CNS, Neuroimmunology, Prions. Lectures for Psychiatry Residents, Department of Psychiatry and Behavioral Sciences, University of Miami School of Medicine, 4 lectures/year for faculty, residents, students, and staff, 20 enrollment, (2000-2007.)
2. Molecular Biology, Virology, and Immunology for Psychiatrists, Department of Psychiatry and Behavioral Sciences, University of Miami School of Medicine, 2-3 lectures/year for faculty, residents, students, and staff, 20-30 enrollment, (1996-present.) This included teaching laboratory techniques for visiting scientists.
3. HIV Neuropathogenesis and the Immune System, Guest Lecturer in BSC 4934 TOPICS IN BIOLOGY (NeuroAIDS) Florida International University, (Professor Ophelia Weeks, FIU, Course Instructor.) (1997-1999.)
4. Molecular and viral topics for Psychiatrists for the 21st Century, Department of Psychiatry and Behavioral Sciences, University of Miami School of Medicine, 2-3 lectures/year for residents and staff, 20-30 enrollment, (2000 - 2007.)
5. Molecular Virology of DNA Viruses, Department of Microbiology/Immunology, University of Miami School of Medicine, 3 lectures/year for graduate students, 10-20 enrollment, (1998-1999.)
6. AIDS: Epidemiology and NeuroAIDS, School of Nursing, University of Miami, 1 lecture per year, 25 enrollment, (1993, 2001.)

7. Molecular Biology, Virology, and Immunology for Neurologists, Department of Neurology (#NE 101) and Wadsworth VAMC, Los Angeles, CA, 3-4 lectures/year for residents and staff, 20-30 enrollment, (1981-1988.)
8. Techniques in Molecular Virology, Department of Pediatrics, Harbor-UCLA Medical Center, Torrance, CA, 1 resident/year as student, (1980 to 1988.)
9. Biochemistry of Human Viruses, Clinical Laboratory Training Program, Harbor-UCLA Medical Center, Torrance, CA, 25 enrollment, 1 lecture/year, (1980 to 1988.)
10. Introductory Immunology at UCLA Extension, Biology X408.1, 36 hours, 15-25 enrollment, (Winter, 1981 to 1988.)
11. Virus Detection Techniques in Human Brain, Department of Neurosurgery and Epilepsy, Drew-King Medical Center, South-East (Watts) Los Angeles, CA, 20 lectures for residents and staff, (1986-1987.)
12. Persistent Virus Infections, Course on "Return to Basic Sciences" for UCLA Medical Students, Department of Pediatrics, with Dr. Joseph W. St. Geme, Jr., Chairman and Dr. D.T. Imagawa, Professor 25 enrollment, (Winter 1984.)
13. Structural Biochemistry, Chemistry 23B, Departments of Biochemistry, Molecular Biology, and Chemistry, 200 undergraduates, 36 hours, UCLA, (Spring, 1984.)
14. Introductory Immunology and Neuroimmunology, Drew-King Medical Center, South-East (Watts) Los Angeles, CA, 36 hours, students, nurses, and staff, (1986-8.)
15. Biology of Animal Viruses, UCLA Extension, 36 hours, 15 enrollment, (Winter, 1980.)
16. Biochemistry Survey Course, Department of Chemistry, Cal. State University at Long Beach, CA, 36 hours, 150 enrollment, (Fall-Winter, 1980.)
17. Experimental Techniques in Biochemistry, Division of Biochemical Sciences, Princeton University Graduate Program, Princeton, NJ, teaching assistant for faculty, 36 hours, 10 graduate students enrollment, 1966-l967.
18. Laboratory Supervisor for Honors Undergraduate Research in Biochemistry, Division of Biochemical Sciences, Princeton University, Princeton, NJ, 1-2 students per year, 1964-l969.

PUBLIC LECTURES:

1. "From Viruses to Galaxies, What is Alive?"
   December 3rd, 1979, Griffith Observatory, Los Angeles, California.
2. "The use of *in situ* hybridization to detect viruses: application to multiple sclerosis and AIDS." March 24th, 1986, at the University of Göteborg Medical School, Göteborg, Sweden. Guest of the Swedish Neuroscience Society.
3. "HIV in the brain in AIDS," a lecture for physicians, July 15th, 1987, at the Miramar Hotel, Santa Monica, CA.
4. "CNS-tropic HIV: footprints of a Trojan Horse." May 23rd, 1991, Retter Auditorium, Comprehensive AIDS Program, University of Miami School of Medicine, Miami, Florida.
5. "HIV and the brain: detection techniques." February 24th, 1992, Department of Medical Laboratory Sciences, Florida International University, Miami, Florida.
6. "Studies of HIV detection in drug paraphernalia and effectiveness of bleach as a disinfectant." Symposium: INJECTION DRUG USERS AND NEEDLE EXCHANGE, Health Crisis Network, June 28th, 1995, Miami, Florida.
7. "vCJD, BSE, and Prions." Grand Rounds, 2002 & 2004, Department of Psychiatry & Behavioral Sciences, University of Miami School of Medicine, Miami, Florida.
8. "NeuroAIDS," Grand Rounds, 2007, Department of Psychiatry and Behavioral Medicine, USF Morsani College of Medicine, Tampa, Florida.
9. "NeuroAIDS," Division of Infectious Disease and International Medicine Symposia, 2007, Tampa General Hospital, Department of Internal Medicine, USF Morsani College of Medicine, Tampa, Florida.

RESEARCH PAPERS

1. Shapshak P: Report and Discussion of the Third International Biophysics Congress of the International Union of Pure and Applied Biophysics, Cambridge, Massachusetts, Icarus, 11, 432-436, 1969.

2. Ph.D. Thesis, Princeton University, 1969: The Chemistry and Biochemistry of Tetrahydrodipicolinic acid, 2nd intermediate in the biosynthesis of L-lysine in *Bacillus megaterium*. University of Michigan Microfilms, Ann Arbor, Michigan, 1970.

3. Sagan C and Shapshak P: On ultraviolet light and the contemporaneous origin of viruses and ribosomes, Publication No. 446 at the Laboratory for Planetary Studies, Center for Radiophysics and Space Research (NASA), Cornell University, Ithaca, NY, May 1971.

4. Shapshak P: Detection of several non-protein amino acids, J Chrom 54: 428-431, 1971.

5. Shapshak P, Okaji M: Detection of non-protein amino acids in the presence of protein amino acids. II. J Chrom 64: 1178-1183, 1972.

6. Raulin F, Shapshak P, and Khare BN: Quantitative gas-liquid chromatography of non-protein amino acids in the presence of the twenty protein amino acids. J Chrom 73: 35-42, 1972.

7. Sagan C, Bilson E, Raulin F and Shapshak P: Amino acid destruction under simulated lunar conditions, role of the solar wind. Publication No. 488 at the Laboratory for Planetary Studies, Center for Radiophysics and Space Research (NASA), Cornell University, Ithaca, NY, March, 1972.

8. Cashel M, Hamel E, Shapshak P, Bouquet M: Interactions of ppGpp structural analogs with RNA polymerase. In IXth Alfred Benzon Symposium, Control of Ribosome Synthesis, Copenhagen, Denmark, 1975.

9. Wainwright IN, Shapshak P: Two-dimensional cellulose thin layer chromatography of oligopeptides, J Chrom Sci 17: 535-537, 1979.

10. Imagawa DT, Howard EB, Van Pelt LF, Ryan DC, Bui HD, Shapshak P: Isolation of canine distemper virus from dogs with chronic neurologic diseases. Prog in Exp Biol Med l64: 355-362, 1980.

11. Lakshmanan J, Mansfield H, Shapshak P, Fisher D: Alteration in tubulin subunits under hypo- and hyperthyroidism. Biochem Biophysics Res Commun 100: 1587-1596, 1981.

12. Anthony BF, Concepcion NF, Shapshak P, Heiner DC, McGeary SA, Ward JI: Enzyme-linked immunosorbent assay ELISA for human antibody to carbohydrate antigens of group B streptococci. In. Proc of the VIIIth Lancefield International Symposium on streptococci and streptococcal diseases. SE Holm and P Christensen (eds), 1982.

13. Tourtellotte WW, Potvin AR, Ma BI, Walsh MJ, Dickstein P, Ingram T, Cowan T, Shapshak P, Delmotte P: Isotachophoresis quantitation of subfractions of multiple sclerosis. CNS, IgG synthesis modulated by ACTH and/or steroids. Neurology 32: 261-266, 1982.

14. Anthony BF, Concepcion NF, McGeary SA, Ward JI, Heiner DC, Shapshak P, and Insel RA: Immunospecificity and quantitation of an ELISA for Group B streptococcal antibody. J of Clin Microb 16: 350-354, 1982.

15. Shapshak P, Graves MC, Imagawa DT: Polypeptides of canine distemper virus strains derived from dogs with chronic neurological disease. Virology 122: 158-170, 1982.

16. Shapshak P, Tourtellotte WW, Staugaitis S, Cowan T, Ingram T, Weil ML, Bliss D, and Tourtellotte WG: Quantitation of human IgG and albumin in electroimmunodiffusion gels containing ionic and non-ionic detergents. Analytical Biochemistry. 132: 305-311, 1984.

17. Baumhefner RW, Tourtellotte WW, Syndulko K, Shapshak P, and Potvin AR: Neuroimmunologic pharmacology of multiple sclerosis: II. The evaluation of immunosuppressive agents. Hommes OR, Mertin J, Tourtellotte WW (eds): Immunotherapies in Multiple Sclerosis. Stuart Phillips Publications, St. Edmundsbury Press, Suffolk, England pp 226-236, 1986.

18. Tourtellotte WW, Shapshak P Nakamura S, Darvish M, Fareed GC, Sidhu K, Schmid P, Graves MC and Berry K: Search for viral nucleic acid sequences in the human central nervous system. In: RE Gonsette, P Delmotte (eds): Immunological and Clinical Aspects of Multiple Sclerosis. Boston: MTP Press Ltd., 1984, pp 463-469.

19. Tourtellotte WW, Staugaitis SN, Walsh MJ, Shapshak P, Baumhefner RW, Potvin AR, and Syndulko K: The scientific basis of intra-BBB IgG synthesis. Annals of Neurology 17: 21-27, 1985.

20. Tourtellotte WW, Walsh MJ, Baumhefner RW, Staugaitis SM, Shapshak P: The current status of multiple sclerosis intra-blood-brain barrier IgG synthesis. Annals NY Acad Sci, 436: 52-67, 1985.

21. Miller B, Tourtellotte WW, Shapshak P, Staugaitis S, Goldberg MA, Heiner D, and Weil ML: Intra-blood-brain-barrier IgG synthesis and oligoclonal banding in cerebral cysticercosis. Arch Neurol 42: 782-784, 1985.

22. Staugaitis SM, Shapshak P, Tourtellotte WW, IEF of unconcentrated CSF: Applications to ultrasensitive analysis of oligoclonal IgG. Electrophoresis 6: 287-291, 1985.

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27. Walsh MJ, Tourtellotte WW, and Shapshak P: Immunoglobulin heavy chain associated protein in MS CSF. Molec Immunol 23: 1117-1123, 1986.

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29. Shapshak P, Graves MC, and Imagawa DT: Antigenic relatedness of the polypeptides of canine distemper virus strains derived from dogs with chronic neurological diseases. Viral Immunology 1: 45-54, 1987.

30. Walsh MJ, Shapshak P, Graves MC, Imagawa DT, and Tourtellotte WW: Isoelectric point restriction and compartmentalization of CSF and serum antibodies to measles virus in multiple sclerosis. J Neuroimmunol 14: 243-252, 1987.

31. Tourtellotte WW, Verity N, Schmid P, Martinez S, Shapshak P: Covalent binding of formalin fixed paraffin embedded brain tissue sections to glass slides suitable for *in situ* hybridization. J Virol Methods 15: 87-99, 1987.

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33. Resnick L, Shapshak P: Serological characterization of HTLV-III/LAV infection by Western blot and radioimmunoprecipitation assays. Arch Path Lab Med 111: 1040-1044, 1987.

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44. Baumhefner RW, Tourtellotte, WW, Syndulko K, Waluch V, Ellison GW, Meyers LM, Cohen SN, Osborne M, and Shapshak P: Quantitative Multiple Sclerosis plaque assessment with magnetic resonance imaging: its correlation with clinical parameters, evoked potentials, and intra-blood-brain-barrier IgG synthesis, Arch Neurol, 47, 19-26, 1990.

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Refer to 'Chapters and Books' for additional publications, 2015 – 2022.

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33. Paul Shapshak. Astrovirology, astrobiology, artificial intelligence: extra-solar system investigations. Global Virology III. VIROLOGY IN THE 21ST CENTURY. Editors: P Shapshak, S Balaji, P Kangueane, F Chiappelli, C Somboonwit, LJ Menezes, and JT Sinnott (Springer Publ. NY, NY) 2020.

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INVITED PLATFORM PRESENTATIONS

1. Shapshak P, HIV-1: factors influencing infection, Committee on Problems of Drug Dependence, 54th Annual Scientific Meeting, Keystone, Colorado, June 25th, 1992.
2. Invited Presentation at 1993 NIDA/CSAT/CDC Workshop on the use of bleach to disinfect drug injection equipment, February 9-10, 1993, Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland. Drs. P. Shapshak and C. McCoy presented data on Outreach aspects and bleach inactivation of HIV-1.
3. McCoy C and Shapshak P, HIV inactivation issues and new data, National Academy of Sciences (NAS), National Research Council (NRC), Workshop on needle exchange and bleach distribution programs, September 27-28, 1993, Baltimore, Maryland.
4. Shapshak P, HIV and microglia, 1st Satellite Symposium of Committee on Problems of Drug Dependence, 55th Annual Scientific Meeting, Toronto, Canada, June 17-18th, 1993. Substance Abuse and the Brain-Immune Axis.
5. Shapshak P, Neuropathogenesis: cytokines and HIV sequence variation, 2nd Satellite Symposium of Committee on Problems of Drug Dependence, 56th Annual Scientific Meeting, Palm Beach, Florida, June 17-18th, 1994. Substance Abuse and the Brain-Immune Axis.
6. Shapshak P, HIV Neuropathogenesis, Grand Rounds of the Department of Neurology, University of Miami School of Medicine, Miami, Florida, June 6th, 1995.
7. Shapshak P, HIV Neuropathogenesis, Grand Rounds of the Department of Psychiatry, University of Miami School of Medicine, Miami, Florida, August 25th, 1995.
8. Shapshak P, Co-Chair Session on Neuropathogenesis due to drug abuse and AIDS, 3rd Satellite Symposium, Neurosciences Meeting, San Diego, California, November 12-14th, 1995. Substance Abuse and the Brain-Immune Axis.
9. Shapshak P, Co-Chair Session on Neuropathogenesis due to drug abuse and AIDS, 4th Satellite Symposium, Neurosciences Meeting, San Juan, Puerto Rico, June 18-20th, 1996. Substance Abuse and the Brain-Immune Axis.
10. Shapshak P, Co-Chair Session on Drug Abuse and AIDS, College on Problems of Drug Dependence, 58th Annual Scientific Meeting, San Juan, Puerto Rico, June 20-25, 1996.
11. Discussant and presenter at the National Conference on Women and HIV, Pasadena Convention Center, Pasadena, CA, May 4-7, 1997.
12. Invited speaker at Cytokines and the Brain, A Satellite Symposium to the Society for Neuroscience 27th Annual Meeting, October 23-25, 1997, New Orleans, Louisiana.

13. Chair, Neuronal Injury and death in HIV infection, at NINDS AIDS Program Panel "Neuronal injury in HIV infection", Feb. 4-6, 1999.
14. Guest lecturer, NeuroAIDS, NINDS, Bethesda, MD, October and November 1999.
15. Guest lecturer, NeuroAIDS, NIMH, Bethesda, MD, December 1999.
16. Guest Lecturer, "Suggested use of Biotechnology in the U.S. Space Program," NASA-AMES, Moffett Field, CA, April, 2000.
17. Chair, Symposium on "Drug Abuse, NeuroAIDS, and HIV Evolution" at the College of Problems in Drug Dependence, June 16-21, 2001, Scottsdale, Arizona.
18. Chair, Symposium on Bioinformatics, Orlando, Florida July 14-18th, 2002 & 2004.

ABSTRACTS

*Presenter: Paul Shapshak, PhD

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3. Newson AE, Shapshak P, and Tyson D: Use of amino acid analyzer programs in the cosmetic field. Society of Cosmetic Chemists, New York City and Los Angeles, 1978.
4. *Shapshak P, Graves WC, Imagawa DT: Polypeptides of persistent and lytic strains of canine distemper virus. Am Soc Microbiol, Miami Beach, Florida, 1980.
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8. Anthony BF, Concepcion NF, Shapshak P, Heiner DC: Solid phase RIA for human antibody to carbohydrate antigens of the group B streptococci and streptococcal disease. Lund, Sweden, 1981.
9. Baumhefner RW, Tourtellotte WW, Potvin AR, Syndulko K, Shapshak P, Ingram T, Cowan T, Domoto L, Guntrip DC, Varnas DS, Syndulko K: National Neurological Research Bank, 12th World Congress of Neurology, Kyoto, Japan, 1981.
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13. Tourtellotte WW, Ingram T, Shapshak P, Cowan T, Dickstein P, Delmotte P, Potvin A, Walsh M, Ma B: Isotachophoresis assessment of subfractions of multiple sclerosis CNS IgG synthesis modulated by ACTH and/or steroids. 12th World Congress of Neurology, Kyoto, Japan, 1981.
14. Baumhefner RW, Shih WH, Tourtellotte WSW, Corn EL, Shapshak P, Staugaitis S, Potvin AR, Syndulko K, Fahey J: Humoral and cellular immunopharmacology of cyclophosphamide, CCNU, and 5-FU in patients with MS. The American Neurological Association, Washington DC, 1982, Ann Neurol 12/1: 101-102, 1982.

15. Baumhefner RW, Shih WH, Tourtellotte WW, Shapshak P, Staugaitis S, Potvin AR, Syndulko K, Fahey J: Humoral and cellular immunopharmacology of ACTH followed by alternate day prednisone in patients with MS. The American Neurologicial Association, Washington DC, 1982. Ann Neurol 12/1: 101, 1982.

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18. Tourtellotte WW, Itabashi HH, Shapshak P, Berman K, Kelly J, Michaels M: National Neurological Research Bank. Neurology 32(4), part 2, A234, 1982 (scientific exhibit/poster.)

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21. Weil ML, *Shapshak P: Laboratory diagnosis of multiple sclerosis: The use of myelin basic protein and IgG quantitation. American Society for Medical Technology (Biochemistry Section) Los Angeles, California, June, 1983.

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25. Tourtellotte WW, Shapshak P, Staugaitis S, Saxton B: Hypothesis: MS oligoclonal bands may be monoclonal. Presented at ISN Satellite Meeting "Is EAE a good model for MS?", Seattle, Washington, July 16-20, 1983.

26. Tourtellotte WW, Shapshak P, Staugaitis S, Reiber HO, Ingram TJ: Correlation of MS IgG fractionated by capillary ITP and by IEF-PAGE. Presented at ISN Satellite Meeting "Is EAE a good model for MS?", Seattle, Washington, July 16-20, 1983.

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29. Tourtellotte Hoffman D, Shapshak P, Nakamura S, Darvish M, Schmid P, Heinzmann C, Fareed GC, Sidhu K, Graves MC: The use of biotin-labeled probes and avidin-linked peroxidase to detect viral nucleic acids in progressive multifocal leukoencephalopathy (PML) white matter. Neurology 34 (Suppl 1): 176, 1984. (Platform presentation at 36th Annual Meeting of the American Academy of Neurology, Boston, Mass, April 8-14, 1984.)

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ACKNOWLEDGMENT FOR CONSULTATION AND ASSISTANCE

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CONTINUING MEDICAL EDUCATION

1. 2.5 Category 1-AMA credit hours, University of Colorado School of Medicine, Office of Continuing Medical Education "Protease Inhibitors in Practice: Myth vs. Reality," Coral Gables, Florida, May 5th, 1999
2. 11.5 Category 1-AMA credit hours, University of Alabama School of Medicine, Office of Continuing Medical Education "HIV Drug Resistance: from laboratory to patient," Miami, Florida, May 18-20th, 2000.

JOURNAL CLUBS

1. Infectious Diseases Journal Club, Department of Pediatrics, Harbor-UCLA School of Medicine, Torrance, CA, 1979 1988.
2. Neuro-immunology and Virology Journal Club, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, 1981-1988. Departments of Biochemistry and Molecular Biology, University of Miami School of Medicine, 1989-1992.
3. Retrovirology and Drug Abuse Colloquium, CDRC and CAP, University of Miami School of Medicine. 1992 – present.
4. Genetics Journal Club, Department of Pediatrics, University of Miami School of Medicine. 2001 – 2007.

REVIEWER

1. Journal of Histochemistry and Cytochemistry (1984.)
2. The John Douglas French Foundation for Alzheimer Disease (1984-1985; 1986-1987.)
3. The Mayo Clinic Proceedings (1985-1986.)
4. Archives of Neurology (1985-1986.)
5. Journal of Clinical Immunology (1985-1986.)
6. Analytical Biochemistry (1986-1987.)
7. Journal of Neuroscience Research (1986-1987.)
8. Journal of Aging (Alzheimer's Disease) (1988-1989.)
9. AIDS Study Section, (*Ad hoc* reviewer) National Institutes of Health, NIDA, (1989-1993.)
10. Brain Research, *Ad hoc* reviewer, (1992-1993.)
11. Journal of Virology *Ad hoc* reviewer, (1993.)
12. Am J of Public Health (1995)

13. AIDS Study Section, National Institutes of Health, NIDA (member, (1993-1998.)
14. Study Section, National Institutes of Health, NIAID *Ad hoc* reviewer, (1999-present.)
15. ZRG1 AARR-A, NeuroAIDS, Study Section, National Institutes of Health, reviewer, (1999-present.)
16. AIDS and Behavior (1999.)
17. J of AIDS and Human Retroviruses (1995, 1997, 1999.)
18. International AIDS Congress (1996, 1998, 2000, 2004, 2006.)
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20. AIDS, (1997-present.)
21. Bioinformation (2000-2019)

Editorial Board: AIDS (1999-2011)

Deputy Chief Editor: Bioinformation (2004-2019)

Editorial Board: Biological Procedures Online (2002- 2008). (Area of expertise: HIV technology)

Editorial Board: Frontiers in Biosciences (2005- 2008)

Ad hoc reviewer: International Journal of Nanomedicine. (Dove Press, 2012)

MEMBER, ADVISORY BOARD, MUSEUM OF SCIENCE AND INDUSTRY, LOS ANGELES:
1986-1988 Scientific Judge, California State Science Fair

SCIENTIFIC ADVISORY BOARD, BOY SCOUTS OF AMERICA
1978-1988 Los Angeles and Santa Monica, CA

DISTRICT ADVISORY COMMITTEE, BOARD OF EDUCATION
1981-1986 Santa Monica-Malibu Schools

ARCHIVES OF HARVARD UNIVERSITY AT WIDENER LIBRARY
1988-present 8 publications in the Archives

WORKSHOPS ATTENDED:

1. Cold Spring Harbor Symposium for Quantitative Biology, The Ribosome and Protein Synthesis, Cold Spring Harbor, NY, June 1969.
2. Third International Biophysics Congress, Cambridge, Massachusetts, July 1969.
3. University of Wisconsin Symposium on Bacteriophage DNA Synthesis, Madison, Wisconsin, July 1972.
4. LKB workshop on isoelectric focusing techniques, Los Angeles, CA, September 1-2, 1981.
5. UCLA Medical School workshop on ELISA, Los Angeles, CA, December 15-16, 1981.
6. 2nd Annual Congress for Recombinant DNA Research, Los Angeles, CA, February 15-17, 1982.
7. UCLA Medical School Workshop on the Western Blot Technique, Los Angeles, CA, March 18-19, 1982.
8. Bethesda Research Laboratories DNA Sequence Analysis Workshop, at U.C. Berkeley, June 30 - July 2, 1982.
9. Eisenhower Medical Center, Rancho, Mirage, California, Infectious Disease Workshop, Sponsored by Hoechst-Roussel Pharmaceuticals, Inc., October 29, 1982.
10. Center for Neurologic Study Workshop on The Detection and Replication of Poliovirus in Persistent Infections of the Central Nervous System with emphasis on nucleic acid hybridization techniques and molecular biology, at San Diego, CA, April 30, 1983.

11. Written Communication Workshop, Wadsworth VA Medical Center, Los Angeles, CA, Feb - April, 1983.
12. Human Gene Mapping Workshop VII, UCLA Los Angeles, CA, August 21-26, 1983.
13. Dako Corporation Workshop on Application of Immunocytochemistry to Surgical Pathology, Los Angeles, CA, May 30, 1984.
14. Dako Corporation Workshop on the Immunoperoxidase Technique, Los Angeles, CA, May 31, 1984.
15. UCLA Neuropsychiatric Institute Workshop on the Epilepsies of Childhood and Adolescence, November 29, 1984.
16. UCLA School of Medicine Neurology Department Workshop on Therapies in Multiple Sclerosis, Los Angeles, CA August 1-2, 1986.
17. UCLA School of Medicine Departments of Neurology and Neurosurgery Symposium on the Temporal Lobe, dedicated to Dr. Paul Crandall upon his retirement, "The Human Limbic System and Epilepsy", Lake Arrowhead, CA, March 25-27, 1988.
18. Cold Spring Harbor Symposium for Quantitative Biology, RNA Tumor Viruses, Cold Spring Harbor, NY, May 24-30, 1989.
19. Cold Spring Harbor Symposium for Quantitative Biology, RNA Tumor Viruses, Cold Spring Harbor, NY, May 23-27, 1990.
20. AIDS Clinical Trials Group, NIAID, NIH, Washington, DC, November 11-14, 1990.
21. AIDS Clinical Trials Group, NIAID, NIH, Washington, DC, March 10-12, 1991.
22. Symposium on HIV-1 and the brain, sponsored by NIAID, Portland, Maine, August 10-14, 1991.
23. American Type Culture Collection (ATCC), PCR, Cloning, and DNA Sequencing, March 1-6, 1993, Rockville, Maryland.
24. Symposium and Technical Review of Longitudinal Studies in Drug Users, National Institute on Drug Abuse, NIH, May 11th-12th, 1993, Bethesda, Maryland.
25. National Academy of Sciences, National Research Council, Workshop on needle exchange and bleach distribution programs, September 27-28, 1993, Baltimore, Maryland.
26. Second AIDS Vaccine Conference sponsored by NIAID, Alexandria, Virginia, October 30th-November 2nd, 1993.
27. First National Conference on Human Retroviruses and Related Infections, American Society for Microbiology, Washington, DC, December 12-17th, 1993.
28. Second National Conference on Human Retroviruses and Related Infections, American Society for Microbiology, Washington, DC, February 29-March 2, 1995.
29. Brain Bank workshop sponsored by NIMH, March 15, Bethesda Maryland, 1996.
30. NeuroAIDS workshop sponsored by NIMH, March 17, Bethesda Maryland, 1997.
31. Alzheimer's Disease Workshop, on genetics and molecular biology, Orlando, Florida, April 30th, 1999.
32. HIV Drug Resistance: from laboratory to patient, Miami, Florida, May 18-20th, 2000.
33. Gordon Conference on Bioinformatics, New Hampshire, August 2001.
34. Society for Neurosciences, Orlando, Florida, 2002.