

CURRICULUM VITAE

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Citizenship: Naturalized US citizen

EDUCATION

<u>Institution</u>	<u>Degree</u>	<u>Year</u>	<u>Field of study</u>
Kashmir University, India	B.S.	1962	Chemistry & Biology
Aligarh University, India	M.S.	1964	Biochemistry
Dept. Biochemistry All India Institute of Medical sciences, New Delhi, India	Ph.D.	1970	Biochemistry
Dept. Mol. Biophysics & Biochemistry Yale University, New Haven, CT	Post-doc	1971-74	Biochemistry/Mol. Biology
Immunobiology Research Center University of Wisconsin, Madison	Post-doc	1974-77	Immunology

EXPERIENCE

April 2000	Director of Respiratory Immunology Division, Lovelace Respiratory Institute, Albuquerque, NM
1995-present	Senior Scientist, Pathophysiology Division, Lovelace Respiratory Research Institute, Albuquerque, NM
1987-1995	Scientist, The Institute for Basic and Applied Medical Research, The Lovelace Institutes, Albuquerque, NM
1987-1995	Program Director, Immunotoxicology, The Institute for Basic and Applied Medical Research, The Lovelace Institutes, Albuquerque, NM
1988-present	Adjunct Professor, Department of Biology, University of New Mexico, Albuquerque, NM
1996-present	Clinical Professor, College of Pharmacy, University of New Mexico, Albuquerque, NM

1979-1986	Assistant Professor, Department of Medical Microbiology and Immunology, University of Kentucky Medical Center, Lexington, KY
1986-1987	Associate Professor, Department of Medical Microbiology and Immunology, University of Kentucky Medical Center, Lexington, KY
1977-1978	Assistant Scientist, Immunobiology Research Center, University of Wisconsin, Madison, WI
1970-1970	Lecturer Department Biochemistry, All India Institute of Medical Sciences, New Delhi, India

HONORS AND AWARDS

Recipient of Merit Pre-doctoral Fellowship from Bata Shoe Company for graduate studies at the All India Institute of Medical Sciences. 1964-1968.

Recipient of the Senior National Fellowship from the Council of Scientific and Industrial Research, India. 1968-1970.

Recipient of the Basanti Devi Amirchand Award for the best presentation of a research paper by a graduate student. 1969.

Keynote Speaker:

Role of the central nervous system in nicotine-induced immunosuppression. Psychoneuroimmunology, AIDS and Drugs of Abuse. University of South Florida, Tampa, FL. (February 24, 1999).

Drugs of abuse and infection. International Symposium on Molecular Medicine with Special Reference to the Molecular Biology of Infectious Disease. Vadodara, India. (December 26, 2003).

Member Study section for The California/Colorado Tobacco-Related Disease Research Program General Biomedical sciences Section	2001- present
Reviewer Philip Morris External Research Program	2002 - present
Member NIH study section: NeuroAIDS and other organ diseases	2000-July 2004
Ad hoc member: NNB (Neuroendocrinology, Neuroimmunology, and Behavior) study section.	November 2004
Member The National Institute of Drug Abuse Study Section AARR5 (AIDS Neuropathogenesis and Morbidity Cofactors)	1998-2000
Member Drugs of Abuse and AIDS Study Section	1997-98
Member NIH AIDS Clinical and Epi Studies Special Emphasis Panel)	July 2004
Member AIDS and Related Research study section (ZRG1 AARR16)	March 2003
Ad hoc Member The National Institute for Drug Abuse Study Section	
Ad hoc Member AARR6 (AIDS Neuropathogenesis and Morbidity Cofactors)	2000

Ad hoc Member of the National Institute for Environmental Health Sciences
NIEHS (Special Emphasis Panel) **1999**

Reviewer for Ohio Cancer Research Associates **1999**

Member NIDA Special Emphasis Panel **1998**

Ad hoc Member The National Center for Research Resources
Comparative Medicine Review Group **1998**

Ad hoc member The National Institute for Drug Abuse study Section **1996**

Ad hoc member The National Institute for Drug Abuse study Section **1992**

Ad hoc member The National Institute for Drug Abuse study Section **1991**

Reviewer Research grants to March of Dimes **1992**

Reviewer Immunology grants Allegheny Research Institute, Pittsburgh **1991-1992**

Member Editorial Board: Indian Journal of Medical Microbiology **2001-**

- **Reviewer:**

Reviewed papers for:

Journal of Immunology

Toxicology and Applied Pharmacology

The FASEB Journal

J. Leukocyte Biology

Psychoneuroimmunology

Fundamental and Applied Toxicology

Medicine and Science in Sports and Exercise

J. Pharmacology and Experimental Therapeutics

Addiction Biology

Experimental Lung Research

Immunopharmacology

American Journal of Respiratory Cell and Molecular Biology

Brain Behavior, and Immunity

Indian J. Experimental Biology

Life Sciences

American Journal of Respiratory and Critical Care Medicine

American Journal of Respiratory Cell and Molecular Biology; Journal of Neuroimmunology,
Journal of Neurovirology

European Respiratory Journal

International Journal of Biochemistry and Cell Biology

European Journal of Pharmacology

Toxicological Sciences

Editorial Board

Ind. Journal of Medical Microbiology

Membership in Professional Societies:

1983-	The American Association of Immunologists
1984- 1986	The Reticuloendothelial Society
1987- 1992	The Clinical Immunology society
1985-	American Association for the Advancement of Science
1996-	Society for Research on Nicotine and Tobacco
2000-	College on Problems of Drug Dependence (CPDD)
1999-	Society for Neuroimmune Modulation (Charter member)
2001	American Thoracic Society
2001	Society of Toxicology

PUBLICATIONS

Razani-Boroujerdi, S., M. Behl, F.F. Hahn, J.C. Pena-Philippides, J. Hutt, and M.L. Sopori. 2008. Role of muscarinic receptors in the regulation of immune and inflammatory responses. *J. Neuroimmunol.* Jan 9 [Epub ahead of print].

Razani-Boroujerdi, S. and M.L. Sopori. 2007. Early manifestations of NNK-induced lung cancer: Role of lung immunity in tumor susceptibility. *Am. J. Respir. Cell Mol. Biol.* 36(1): 13-19.

Razani-Boroujerdi, S., R.T. Boyd, M.I. Davila-Garcia, J.S. Nandi, N.C. Mishra, S.P. Singh, J.C. Philippides, R. Langley, and M.L. Sopori. 2007. T cells express $\alpha 7$ -nicotinic acetylcholine receptor subunits that require a functional TCR and leukocyte-specific tyrosine kinase for nicotine-induced Ca^{2+} response. *J. Immunol.* 179(5): 2889-2898.

Pena-Philippides, J.C., S. Razani-Boroujerdi, S.P. Singh, R.J. Langley, N.C. Mishra, R.F. Henderson, and M.L. Sopori. 2007. Long- and short-term changes in the neuroimmune-endocrine parameters following inhalation exposures of F344 rats to low-dose sarin. *Toxicol. Sci.* 97(1): 181-188.

Singh, S.P., S. Razani-Boroujerdi, J.C. Pena-Philippides, R.J. Langley, N.C. Mishra, and M.L. Sopori. 2006. Early postnatal exposure to cigarette smoke impairs the antigen-specific T-cell responses in the spleen. *Toxicol. Lett.* 167(3): 231-237.

Sopori, M.L., S. Razani-Boroujerdi, and S.P. Singh. 2005. Chapter 8, Immunomodulatory effects of cigarette smoke/nicotine. In *Infectious Diseases and Substance Abuse*. H. Friedman, T.W. Klein, and M. Bendinelli (Eds.). pp. 103-110, Springer, New York.

Benson, J.M., F.F. Hahn, T.H. March, J.D. McDonald, A.P. Gomez, M.L. Sopori, A.J. Bourdelais, J. Naar, J. Zaias, G.D. Bossart, and D.G. Baden. 2005. Inhalation toxicity of brevetoxin 3 in rats exposed for twenty-two days. *Environ. Health Perspect.* 113: 626-631.

Razani-Boroujerdi, S., S.P. Singh, C. Knall, F.F. Hahn, J.C. Pena-Philippides, R. Kalra, R.J. Langley, and M.L. Sopori. 2004. Chronic nicotine inhibits inflammation and promotes influenza infection. *Cell. Immunol.* 230(1): 1-9.

Benson, J.M., F.F. Hahn, T.H. March, J.D. McDonald, M.L. Sopori, J. Seagrave, A.P. Gomez, A.P. Bourdelais, J. Naar, J. Zaias, G.D. Bossart, and D.G. Baden. 2004. Inhalation toxicology of brevetoxin 3 in rats exposed for five days. *J. Toxicol. Environ. Health A* 67(18): 1143-1156.

Kalra, R., S.P. Singh, J.C. Pena-Philippides, R.J. Langley, S. Razani-Boroujerdi. 2004. Immunosuppressive and anti-inflammatory effects of nicotine patch in an animal model. *Clin. Diag. Lab Immunol* 11: 563-568.

Langley, R.J., R. Kalra, N.C. Mishra, F.F. Hahn, S. Razani-Boroujerdi, S.P. Singh, J.M. Benson, J.C. Pena-Philippides, and M.L. Sopori. 2004. A biphasic response to silica. I. Immunostimulation is restricted to the early stage of silicosis. *Am. J. Respir. Cell Mol. Biol.* 30: 823-829, 2004.

Langley, R.J., R. Kalra, N. Mishra, and M.L. Sopori. 2004. Central but not the peripheral action of cholinergic compounds suppress the immune system. *J. Neuroimmunol.* 148: 140-145.

Singh, S.P., E.G. Barrett, R. Kalra, S. Razani-Boroujerdi, R.J. Langley, V. Kurup, Y. Tesfaigzi, and M.L. Sopori. 2003. Prenatal cigarette smoke decreases lung cAMP and increases airway hyperresponsiveness. *Am. J. Respir. Crit. Care Med.* 168: 342-347.

Kalra, R., S.P. Singh, S. Razani-Boroujerdi, R.J. Langley, W.B. Blackwell, R.F. Henderson, and M.L. Sopori. 2002. Subclinical doses of the nerve gas sarin impair T cell responses through the autonomic nervous system. *Toxicol. Appl. Pharmacol.* 184: 82-87.

Henderson, R.F., E.B. Barr, W.B. Blackwell, C.R. Clark, C.A., Conn, R. Kalra, T.H. March, M.L. Sopori, Y. Tesfaigzi, M. Manache, and D.A. Mash. 2002. Response of rats to low levels of sarin. *Toxicol. Appl. Pharmacol.* 184: 67-76, 2002.

Kalra, R., S.P. Singh, S.G. Matta, B.M. Sharp, and M.L. Sopori. 2002. Self-administration of nicotine in rats impairs T cell responsiveness. *J. Pharmacol. Exp. Ther.* 302: 935-939.

Sopori, M.L. 2002. Effects of cigarette smoke on the immune system. *Nat. Rev. Immunol.* 2: 372-377.

Henderson, R.F., E.B. Barr, W.B. Blackwell, C.R. Clark, C.A. Conn, R. Kalra, T.H. March, M.L. Sopori, Y. Tesfaigzi, M.G. Ménache, D.C. Mash, K. Dokladny, W. Kozak, A. Kozak, M. Wachulec, K. Rudolph, M.J. Kluger, S.P. Singh, S. Razani-Boroujerdi, and R.J. Langley. 2001. Response of F344 rats to inhalation of subclinical levels of sarin: exploring potential causes of Gulf War illness. *Toxicol. Ind. Health.* 17: 294-297.

Sopori, M., R. Kalra, S. Singh, and R. Langley. 2001. Neuroimmune interaction in nicotine-induced immunosuppression. *NIDA Res. Monograph Ser.* 182: 100-102.

Kalra, R., S.P. Singh, S.M. Savage, G.L. Finch, and M.L. Sopori. 2000. Effects of cigarette smoke on the immune response: chronic exposure to cigarette smoke impairs antigen-mediated signaling in T cells and depletes IP3-sensitive calcium stores. *J. Pharmacol. Exp. Ther.* 293: 166-171.

Singh, S.P., R. Kalra, P. Puttfarcken, A. Kozak, and M.L. Sopori. 2000. Acute and chronic nicotine exposures modulate the immune system through different pathways. *Toxicol. Appl. Pharmacol.* 164: 65-72.

Razani-Boroujerdi, S., B. Edwards, and M.L. Sopori. 1999. In vitro exposure of lymphocytes to lead stimulates the protein tyrosine kinase-independent rise in inositol 1,4,5,-trisphosphate and progression into cell cycle. *J. Pharmacol. Exp. Ther.* 288: 714-719.

Razani-Boroujerdi, S., and M.L. Sopori. 1999. Alcohol-induced changes in the immune response. II. Susceptibility to immunosuppression induced by chronic ethanol intake is a dominant genetic trait. *Alcohol Alcoholism* (submitted).

Sopori, M.L., and W. Kozak. 1998. Mechanisms and effects of immunomodulation by cigarette smoke. *J. Neuroimmunol.* 81: 138-146.

Sopori, M.L. 1998. Immunosuppressive and anti-inflammatory properties of nicotine. In *Neuronal Nicotinic Receptors: Pharmacology and Therapeutic Opportunities*. S. Arneric and J.D. Brioni (Eds). John Wiley & Sons Press, pp 197-209.

Sopori, M.L., W. Kozak, S.M. Savage, Y. Geng, and M.J. Kluger. 1998. Nicotine-induced modulation of T cell function: implications for inflammation and infection. In *Drugs of Abuse, Immunomodulation, and AIDS*. H. Friedman, J. Madden and T. Klein (Eds.). Plenum Press, New York, pp 279-289.

Sopori, M.L., W. Kozak, S.M. Savage, Y. Geng, D. Soszynski, M.J. Kluger, E.K. Perryman, and G.E. Snow. 1998. Effect of nicotine on the immune system: Possible regulation of immune responses by central and peripheral mechanisms. *Psychoneuroendocrinology* 23: 189-204.

Geng, Y., S.M. Savage, S. Razani-Boroujerdi, and M.L. Sopori. 1996. Effects of nicotine on the immune response. II. Chronic nicotine treatment induces T cell anergy *J. Immunol.*, 156: 2384-2390.

Geng, Y., S.M. Savage, J.C. Seagrave, L. Johnson, and M.L. Sopori. 1995. Effects of nicotine on immune response. I. Chronic exposure to nicotine impairs the antigen receptor-mediated signal transduction in lymphocytes. *Toxicol. Appl. Pharmacol.* 135: 268-278.

Sopori, M.L. S. Razani-Boroujerdi, S.M. Savage, and Y. Geng. 1994. Chronic ethanol intake induces B-cell functional anergy in genetically susceptible strains of rats. *Regulatory Peptides* 54: 281-282.

Razani-Boroujerdi, S., D. Partridge, and M.L. Sopori. 1994. Intracellular calcium signaling induced by thapsigargin in excitable and inexcitable cell. *Cell Calcium.* 16: 267-274.

Razani-Boroujerdi, S., S.M. Savage, and M.L. Sopori. 1994. Alcohol-induced changes in the immune response: Immunological effects of chronic ethanol intake are genetically regulated. *Toxicol. Appl. Pharmacol.* 127: 37-43.

Sopori, M.L., N. Goud, and A.M. Kaplan. 1994. Effects of tobacco smoke on the immune system. In *Immunotoxicology and Immunopharmacology*. Eds. Desn, Luster, Munson and Kimber. Raven Press, N.Y. pp 413-434.

Donaldson, L.A., R. Cheng, S.M. Savage, and M.L. Sopori. 1993. Characteristics of CD4⁺ T cells which transfer murine AIDS (MAIDS). *Cell. Immunol.* 54: 468-479.

- Sopori, M.L., S.M. Savage, A.K. Rattan, and G.A. Tejwani. 1993. Role of opioids in cigarette smoke-induced antinociception. *Regulatory Peptides Suppl.* 1:103-104.
- Sopori, M.L., S.M. Savage, R.F. Christner, Y. Geng, and L.A. Donaldson. 1993. Cigarette smoke and the immune response: Mechanism of nicotine-induced immunosuppression. *Adv. Biosciences.* 86: 663-672.
- Savage, S.M., L.A. Donaldson, and M.L. Sopori. 1993. Autoreactive T cells recognize B cells through terminal mannose-containing superantigen-like glycoprotein. *Cell. Immunol.* 146: 11-27.
- Savage, S.M., L.A. Donaldson, S. Cherian, R.R. Chilukuri, V.A. White, and M.L. Sopori. 1992. Effects of cigarette smoke on the immune response. II. Chronic exposure to cigarette smoke inhibits surface immunoglobulin-mediated responses in B cells. *Toxicol. Appl. Pharmacol.* 111: 523.
- Sopori, M.L., G.A. Tejwani, S. Rajagopalan, and L.A. Donaldson. 1992. Cmyc expression in brains from ethanol-treated rats. *Proc. V International Congress on Drug Addiction.* pp 92-95.
- Sopori, M.L., S.M. Savage, M.S. Rajagopalan, L.A. Donaldson, P. Gillespie, G. Shopp, A.K. Rattan, and G.A. Tejwani. 1991. Effects of chronic ethanol treatment on the immune response and the brain opioids. *Excerpta Medica Ser.* 914: 427.
- Sopori, M.L., L.A. Donaldson, and S.M. Savage. 1990. T lymphocyte heterogeneity in the rat. III. Autoreactive T cells are activated by B cells. *Cell. Immunol.* 128: 427.
- Gupta, R.C., C.G. Gariola, and M.L. Sopori. 1989. Formation of cigarette smoke-induced DNA adducts in the rat lung and nasal mucosa. *Cancer Res.* 49: 1916.
- Sopori, M.L., S. Cherian, R.R. Chilukuri, and G.M. Shopp. 1989. Cigarette smoke causes inhibition of immune response to intratracheally administered antigens. *Toxicol. Appl. Pharmacol.* 97: 489.
- Sopori, M.L., Y.L. Hurt, S. Cherian, A.M. Kaplan, and T. Diamantstein. 1988. Differential requirement for accessory cells in polyclonal T cell activation. *Cell. Immunol.* 105: 174.
- Sopori, M.L., C.G. Gariola, and S. Cherian. 1987. Selenium enhances NK-mediated cytotoxicity. *Proc. III international Conference on micronutrients, Aligarh, India.* pp. 101-104.
- Sopori, M.L., C.C. Gariola, A.J. Delucia, L.S. Bryant, and S. Cherian. 1986. Immune responsiveness of monkeys exposed chronically to cigarette smoke. *Clin. Immunol. Immunopath.* 36: 338.
- Sopori, M.L., R.S. Perrone, S. Cherian, and A.M. Kaplan. 1985. Immunoregulation in the rat: Characteristics of suppressor T cell that inhibits antigen-dependent T cell proliferation. *J. Immunol.* 135: 80.
- Sopori, M.L., D.A. Cohen, S. Cherian, R.S. Perrone and A.M. Kaplan. 1985. Antigen presentation in the rat. II. An Ia⁺ radio-sensitive T cell can present antigen to primed Ia⁻ T cells. *J. Immunol.* 134: 1369.

- Sopori, M.L., D.A. Cohen, S. Cherian, T.L. Roszman, and A.M. Kaplan. 1984. T cell heterogeneity in the rat: Separation of distinct rat T lymphocyte populations which respond in syngeneic and allogeneic MLR. *Cell. Immunol.* 87: 295.
- Sopori, M.L., D.A. Cohen, S. Cherian, and A.M. Kaplan. 1984. Antigen presentation in the rat: Role of non-adherent, non-phagocytic, W3/13, OX-6 positive T cell in the presentation of antigen to primed T lymphocytes. *Cell. Immunol.* 87: 177.
- Sheil, J.M., P.H. Gallimore, S.G. Zimmer, and M.L. Sopori. 1984. Susceptibility of adenovirus 2-transformed rat cell lines to NK cells: Direct correlation between NK resistance and in vivo tumorigenesis. *J. Immunol.* 132: 1578.
- Sopori, M.L., J.M. Sheil, and S.G. Zimmer. 1982. Distinct T cells recognize allo- and self-antigens in the rat. *Ind. J. Immunopath.* 3: 18-25.
- Sopori, M., J.M. Sheil, T.L. Roszman, and B. Brooks. 1982. T lymphocyte heterogeneity in rat: Role of adherent T cell subpopulation in the regulation of cytotoxic T cell responses to alloantigens. *Cell. Immunol.* 65: 103-114.
- Wu, S., F.H. Bach, and M.L. Sopori. 1981. Differential allo-response of murine thymocytes to H-2K region different recombinants and H-2K^b mutants. *J. Immunol.* 124: 2464.
- Sopori, M.L., and F.H. Bach. 1980. Responses of thymocytes to alloantigenic stimuli. In *Molecular basis of immune cell function*, (Ed. J.G. Kaplan), Biomedical Press. pp 556.
- Bach, F.H., B.J. Alter, and M.L. Sopori. 1979. Lymphocyte subpopulations responsive to alloantigens. *J. Reticuloendo. Soc.* 26: 587.
- Bach, F.H., B.J. Alter, and M.L. Sopori. 1980. Complexity within T lymphocytes responding in primary and secondary in vitro reactions. In *Molecular basis of immune cell function*. (Ed. J.G. Kaplan). Biomedical Press, pp 209.
- Bernstein, A., M.L. Sopori, J.E. Gose, and F.H. Bach. 1979. Modulation of immune response by alloactivated suppressor cells T cells. *Transpl. Proc.* 11: 997.
- Bernstein, A., M.L. Sopori, M.L. Bach, and F.H. Bach. 1978. Role of suppressor T cells in the allograft reaction. *Trans. Proc.* 10: 330-331.
- Sopori, M.L., A. Bernstein, and F.H. Bach. 1978. In vitro sensitization of thymocytes: Role of H-2I region and cell-free supernatants in generation of cytotoxic allograft responses. *J. Exp. Med.* 148: 953-962.
- Bach, F.H., M.L. Sopori, G. Sundharadas, M.L. Bach, P.M. Sondel, and B.J. Alter. 1977. Activation of lymphocytes in vitro. 4: 139.
- Sopori, M.L., B.J. Alter, F.H. Bach, and M.L. Bach. 1977. Cell-free factor substitutes for "signal 2" in generating cytotoxic reaction. *Eur. J. Immunol.* 7: 823.
- Sundharadas, G., M.L. Sopori, C.E. Hayes, P.R. Narayanan, B.J. Alter, M.L. Bach, F.H. Bach. 1978. Differentiation of precursor cytotoxic T lymphocytes following alloantigenic stimulation. *Cold Spring Harbor confer. Cell Prolifer.* 5: 519.

- Sopori, M.L., and M.L. Bach. 1976. Nature of target antigens in cell-mediated lympholysis. *Transpl. Proc.* 9: 617.
- Sheehy, M.J., P.M. Sondel, F.H. Bach, M.L. Sopori, and M.L. Bach. 1975. Rapid detection of LD determinants: The PLT Assay. In *Histocompatibility Testing*. (Ed. E. Kissmeyer-Nielsen), Munkgaard, Copenhagen. pp 569.
- Sopori, M.L., M. Pellegrini, P. Lengyel, and C.R. Cantor. 1974. Affinity labeling of E. coli ribosomal proteins with an analog of natural initiator tRNA. *Biochemistry* 13: 5432.
- Gupta, S.L., W.D. Graziadei, H. Weideli, M.L. Sopori, and P. Lengyel. 1974. Selective inhibition of viral protein accumulation in interferon-treated cells, non-discriminate inhibition of the translation of added viral and cellular mRNAs in their extracts. *Virology* 57: 49.
- Sopori, M.L., S.L. Gupta, and P. Lengyel. 1974. Release of inhibition of mRNA translation in the extracts of interferon-treated Erlich Ascites tumor cells by added tRNA. *Biochem. Biophys. Res. Com.* 57: 763.
- Gupta, S.L., M.L. Sopori, and P. Lengyel. 1973. Inhibition of protein Synthesis directed by added viral and cellular mRNAs in the extracts of interferon-treated Erlich Ascites tumor cells. Location of dominance of the inhibitor(s). *Biochem. Biophys. Com.* 54: 777.
- Lengyel, P., S.L. Gupta, M.L. Sopori, J. Waterson, and S. Weissman. 1972. On the movement of the ribosome along mRNA and on apparent changes in the ribosomal conformation during protein synthesis. In *Gene Expression and its Regulation*. (Eds. F. Kenney, B. Mamkalo, G. Favelukey, and J. August), Plenum Publishing Corp. N.Y. pp 287.
- Sopori, M.L., J. Waterson, S.L. Gupta, and P. Lengyel. 1972. Apparent changes in ribosomal conformation during protein synthesis. *Biochemistry* 11: 1377.
- Lengyel, P., M.L. Sopori, S.L. Gupta, and J. Waterson. On the translocation phase of peptide chain elongation. In *RNA viruses/Ribosomes*. (Eds. H. Bloemendal, and J. Planta), Amsterdam, Holland. pp. 291.
- Sopori, M.L., and P. Lengyel. 1972. Components of 50S ribosomal subunit involved in GTP cleavage. *Biochem. Biophys. Res. Com.* 46: 238.
- Gupta, S.L., J. Waterson, M.L. Sopori, S.M. Weissman, and P. Lengyel. 1971. Movement of the ribosome along messenger ribonucleic acid during protein synthesis. *Biochemistry* 10: 4410.
- Talwar, G.P., B.L. Jaikhani, M.L. Sopori, S. Venkatesan, A. Grover, P.R. Narayanan, et al. 1974. *Proc. Calcutta Symposium on Control of Transcription*. Eds B.B. Biswas, R.K. Mondal, A. Stevens, and M.E. Cohn., pp. 333-335.
- Talwar, G.P., M.L. Sopori, B.L. Jaikhani, S.K. Sharma, and K.N. Rao. 1970. Molecular mechanism of estradiol action. In *Ciba Foundation Symposium of Control Processes in Multicellular organisms*. (Eds. G. Wolstenholme, and J. Knight). J & A Churchill, London. pp. 108.

Sopori, M.L., D.K. Biswas, S.J. Segal, and G.P. Talwar. 1968. Nature and characteristics of the binding of estradiol- 17 β to a uterine macromolecular fraction. *Biochem. J.* 107: 765.

Sopori, M.L., K.K. Sen, D.K. Biswas, and G.P. Talwar. 1968. Molecular Characterization of estradiol binding receptor. *Ind. J. Biochem.* 9: 102.

Sopori, M.L., N.N. Srinivasan, D.K. Biswas, and G.P. Talwar. Molecular mechanism of estradiol action. *CSIR J.* 1: 1-6.

Talwar, G.P., S.L. Gupta, J.K. Nandi, and M.L. Sopori. Role of hormones in the regulation of RNA biosynthesis. In *Symp. Nucleic Acids (Structure, Biosynthesis, and Function)*. CSIR. pp. 230.

Publications in general magazines.

Smoking and Immunity: An interview by Maria Braden, published in *Odyssey* (University of Kentucky Press), covering outstanding research in the university of Kentucky, Spring Issue, 1987.

Toxicology of cigarette smoke: Interview conducted by Dr. David Houchens, Project Manager, Pharmacology and Drug Development Section, Battelle Corp. Columbus, OH. Published in 1987 report of Battelle Corp.

Radio/TV interviews:

A five minute television interview conducted by the Science correspondent of Channel 18, Lexington, KY. *Smoking and immunity*. Aired Jan., 1987.

A thirty minute talk on the effects of cigarette smoke on human health. Aired by the All India Radio, Srinagar. Oct. 5, 1988.

Teaching Responsibilities:

1980-1986	Participated on a regular basis in teaching MMI/Bio 685 (Advanced Immunology), and Bio 772 (Special Topics in Immunology) to graduate students at the university of Kentucky Medical Center
1982-1986.	Coordinator of MMI/Bio 685, and taught over 75% of the course. Students have consistently rated my teaching from excellent to outstanding.
1981-1986.	Immunogenetics (3 lectures) to dental students
1988-present	Participated in the teaching of BIO 456, Biology, University of New Mexico
1990 (fall)	Taught 100% of classes in BIO 456 at the University of New Mexico

Thesis Director:

1. Kathy Rittenhouse, M.S. 1982 (University of Kentucky)
2. James Sheil, Ph.D. 1984 (University of Kentucky)

3. Yvonne Hurt, M.S. 1986. (University of Kentucky)
4. Roger Perrone, M.S. 1987 (University of Kentucky)
5. Yuemei Geng, Ph.D. 1996 (University of New Mexico)

Postdoctoral Trainees:

1. Ranga Chilukuri, M.D. 1987-1990 (Currently a fellow in Pulmonary Medicine; Texas Tech University, Lubbock)
2. M.S. Rajagopalan, Ph.D. 1990-1992 (Currently Associate Professor, National Institute of Immunology, India)
3. Richard Cheng, Ph.D. 1994-1995 (Currently a resident in Internal Medicine, University of California, San Diego)
4. Seddigeh Razani-Boroujerdi, Ph.D. 1993-1995 (Currently Associate Research Scientist, Department Physiology, University of New Mexico, Albuquerque)
5. Shashi Singh, Ph.D. 1997-2000 (Currently Associate Scientist, Lovelace Respiratory Research Institute, Albuquerque, NM)
6. Roma Kalra, Ph.D. 1998-present
7. Neerad Mishra, Ph.D. 2002-present

• **Important committees**

1982-1985	Education Policies for Microbiology and Immunology, University of Kentucky
1983-1986	Intramural Research Committee, University of Kentucky Medical Center
1988-1993	Internal Advisory Committee, Lovelace Medical Foundation
1993-1996	Member Director's Advisory Committee, Institute for Basic and Applied Medical Research, Lovelace Institutes
1989-1995	Member The Lovelace Institutes Animal Care and Use Committee, Albuquerque, NM
1997-present	Co-Chair for Promotions Committee, Lovelace Respiratory Research Institute, Albuquerque, NM

• **Consultant:**

- Rho Med Corp. Albuquerque, NM. (1989-1992)
- Summa Biotech Corp., Albuquerque, NM (1990-1991)
- Bio-Tech Imaging, Inc. Frederick, MD (1997-2000)

- **Public Service:**

- 1985-1986 Coached a team of five high school students in the Olympics of Mind (problem solving contest). The team won the Kentucky State championship. The team placed 7th (out of 34 teams) overall in the national contest at the Northern Arizona University, Flag-Staff, AZ.
- 1992- 1993 President Debate Club for La Cueva High School Speech Team, Albuquerque, NM

Recent Invited Lectures

- June 1996 Department of Pharmacy, University of New Mexico, Albuquerque, NM. Mechanism of cigarette smoke-induced immunosuppression
- September 17, 1996 Department of Medical Microbiology and Immunology, University of Kentucky Medical Center, Lexington, KY. Chronic nicotine causes T cell anergy; role of intracellular calcium pools in T cell proliferation
- September 19, 1996 Department of Pharmacology, Ohio State University, Columbus OH. Nicotine-induced immunosuppression
- November 1996 9th National Conference on Nicotine Dependence. November 14-17, Washington, DC. Effects of nicotine on the immune response
- June 1997 5th Annual Conference on Drugs of Abuse, Immunomodulation and AIDS (Nashville, TN, June 12-14, 1997). Nicotine-Induced Modulation of T Cell Function: Implications on Inflammation and Infection
- August 1997 Abbott Laboratories, Chicago, IL. Antiinflammatory and neuroimmune effects of nicotine
- June 11-13, 1998 Role of nicotine in immunosuppression and Inflammation. Sixth Annual Symposium on Drugs of Abuse, Immunomodulation, and AIDS. Scottsdale AZ
- June 16, 1998 Immunomodulatory and anti-inflammatory properties of nicotine. University of Texas Health Center. Tyler, TX
- June 19, 1998 Effects of cigarette smoke/nicotine on the immune response. Department of Occupational and Environmental Sciences, Wayne State University, Detroit, MI
- August 6, 1998 Mechanism of nicotine-induced immunosuppression. Department of Molecular and Cell Biology, Roswell Park Cancer Center, Buffalo, NY
- August 7, 1998 Role of CNS in nicotine-induced immunosuppression. Department of Physiology and Pharmacology, University of Rochester Medical Center, Rochester, NY

October 1, 1998	International Symposium on the "Validity of Animal Models of Human Diseases", Santa Fe, NM. Chairing session on Infectious Diseases
October 30-31, 1998	Effects of nicotine on antigen-mediated signaling in T lymphocytes. International Symposium on Apoptosis. Chandigarh, India
November 1-6, 1998	Regulation of immune and inflammatory responses by nicotine. Tenth International Congress of Immunology, New Delhi, India. Also selected to chair the session on Drugs of Abuse and Neuroimmune Axis
November 12, 1998	Mechanism of cigarette smoke/nicotine induced immunosuppression. Department of Biochemistry, University of Kerala, Thiruananthapuram, India
February 24, 1999	Role of the central nervous system in nicotine-induced immunosuppression. Psychoneuroimmunology, AIDS and Drugs of Abuse. University of South Florida, Tampa, FL. (Key note lecture)
Oct. 29-Nov. 2, 1999	Anti-inflammatory and antinociceptive properties of nicotine. 5th Biennial Congress of Asian and Oceanic Society of Regional Anesthesia. New Delhi, India
April 2000	Allergy Immunology Division, Medical College of Wisconsin VA Medical Center, Milwaukee, Wisconsin
August 2000	Mechanism of cigarette smoke Immunosuppression Medical College of Pokra, Nepal
September 2000	International Symposium Recent Advances in Allergy, Inflammation, and Immune Responses, Vadodara, India
September 2000	Indo-US Symposium on AIDS. Manipal Academy of Higher Education, Karnataka, India
January 2001	Neuroimmune Effects of Subclinical Doses of Sarin: Sarin Suppresses T cell responsiveness through the CNS. Conference on Illnesses Among Gulf War Veterans: A Decade of Scientific Research: Alexandria, VA
May 30, 2001	Nicotine modulates the immune system through the autonomic nervous system. Department Pharmacology, Ohio State University, Columbus, OH
June 20, 2001	Neuroimmune effects of nicotine. 63 rd meeting of the College on Problems of Drug Dependence (CPDD). June 16-21, Scottsdale, AZ (Co-chair Symposium on the Neuroimmune Effects of Drugs of Abuse)

July 16, 2001 Role of cholinergic drugs in modulating the immune system. Department of Allergy and Immunology, Buffalo General Hospital, State University of New York at Buffalo, NY

December 12, 2001 Immunomodulatory effects of nicotine. Department of Pharmacology, University of Tennessee, Memphis, TN

March 18, 2002 Neuroimmune communication in nicotine-induced immunosuppression. Society of Toxicology (41st Annual meeting), Symposium on Molecular mechanisms of smoking-induced immune suppression. Nashville, TN

May 9, 2002 Role of IL-1 β in nicotine-induced immunosuppression. 9th Intern. Annual meeting, Psychoneuroimmunology Research Society. Madison, Wisconsin

October 4, 2002 Immunosuppressive and anti-inflammatory properties of nicotine. Annual meeting of the Society on Neuroimmune Pharmacology (Ninth Conference Neuroimmune Circuits and Infectious Diseases) Clearwater, FL

January 12, 2003 Role of nicotine and nicotinic receptors in immunosuppression and lung cancer. International Conference on Cancer and Immunity. Thiruananthapuram, India

January 20, 2003 Effects of cigarette smoke on the immune system. Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi, India

March 5, 2003 Role of the central nicotinic acetylcholine receptors on nicotine-induced immunosuppression

June 18, 2003 Immunomodulatory Effects of Nicotine on Inflammation and Infection. Symposium on "Nicotine, Addiction, and Immunomodulation." Sixty-Fifth Annual Scientific Meeting of CPDD; Bar Harbour, FL

December 26, 2003 Drugs of abuse and infection. **Keynote address** at International Symposium on Molecular Medicine with Special Reference to the Molecular Biology of Infectious Disease. Vadodara, India

December 27, 2003 Role of $\alpha 7$ -nicotinic acetylcholine receptors in immunity and inflammation. International Symposium on Molecular Medicine with Special Reference to the Molecular Biology of Infectious Disease. Vadodara, India

December 28, 2003 Nicotine in infection and immunity. Department of Biosciences, Sardar Patel University, Vidyanagar, India

- December 30, 2003 Role of nicotinic acetylcholine receptors in immunity, infection, and lung carcinogenesis. Tata Memorial Center. Advanced Center for Treatment, Research and Education in Cancer (ACTREC). Bombay, India
- February 23, 2004 Immunotoxicity of low-dose sarin and silica inhalation. Research Advisory Committee on Gulf War Veterans' Illnesses. Baltimore, MD
- May 17, 2004 Neuroimmune Effects of Sarin and Other Cholinergic Agents Are Mediated Through the Autonomic Nervous System: A Possible Role for IL-1 β in this Response. The Medical Defense Biosciences Review (US Army Medical Defense). Hunt Valley, MD
- September 10, 2004 Role of IL-1 β in the modulation of neuroimmune communication by nicotine. Sixth International Symposium on NeuroVirology/HIV Neuroprotection Workshop, Sardinia, Italy
- September 17, 2004 Effects of Nicotine on allergy and Inflammation. Global Bio Pharma Conference, Emerging Issues, Challenges and Opportunities in the New Millennium; Mumbai, India
- September 17, 2004 Chairman session on "Small Molecules and Nutraceuticals". Global Bio Pharma Conference, Emerging Issues, Challenges and Opportunities in the New Millennium; Mumbai, India

UPCOMING INVITED LECTURES:

- February 24, 2005 Immunotoxicology of nicotine. Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA
- March 7, 2005: Immunotoxicity of sarin and other cholinergic agents. 44th Annual meeting of Society of Toxicology meeting, New Orleans, LA
- April 7, 2005 Neuroimmune effects of nicotine. Annual Symposium of the Society of Neuroimmune Pharmacology, "Neuroimmune Control Mechanisms: Receptors and Ligands Expressed by Neurons and Immune Cells". Clearwater, FL