

**Curriculum Vitae**  
**ARUN L. JADHAV, Ph.D.**

**Professor of Pharmacology**

**EDUCATION**

- ❖ **Ph.D., Pharmacology, Department** of Pharmacology, Stritch School of Medicine, Loyola University of Chicago, Maywood, Illinois.
- ❖ **Postdoctoral Research**, Department of Pharmacology, University of Texas Medical Branch, Galveston, Texas.
- ❖ **M.Sc., Chemistry**, University of Poona, Pune, India.
- ❖ **B.Sc., Chemistry**, Pratap College (University of Poona), Amalner, India

**FACULTY APPOINTMENTS**

**Roosevelt University College of Pharmacy**

- ❖ Professor of Pharmacology

**Texas Southern University College of Pharmacy & Health Sciences (TSUCOPHS)**

- ❖ Assistant Professor of Pharmacology and Toxicology
- ❖ Associate Professor of Pharmacology and Toxicology
- ❖ Professor of Pharmacology and Toxicology

**ADMINISTRATIVE APPOINTMENTS AT ROOSEVELT**

- ❖ Director of Self-Study.
- ❖ Associate Dean, Assessment and Accreditation.

**ADMINISTRATIVE APPOINTMENTS AT TSUCOPHS THAT PROMOTED RESEARCH**

Assistant Provost for Research.  
Assistant Dean for Research & Graduate  
Director, Graduate Program in Pharmaceutical Sciences  
Director, Center for Toxicological Research

**GRANTS**

- ❖ Secured several individual, institutional, and project grants. These grants significantly enhanced faculty's research capabilities, research infrastructure, and served as underpinnings for two graduate programs; one in pharmaceutical sciences and the other in environmental toxicology.

**Individual Research Grants:**

**At RUCOP:**

- 1) **Funding Agency: Roosevelt University College of Pharmacy Intramural Grant**

**Role:** Principal Investigator

**Title:** A zebrafish model for behavioral neuroscience studies: Innate anxiety responses to novel environments and their modulation by anxiolytics.

**Amount:** \$3,200

**Dates:** March 2015

#### At TSU-COPHS

**2) Funding Agency:** Agency for Toxic Substances & Disease Registry/Centers for Disease Control & Prevention/Cooperative Agreement for Substance-Specific Research Program - ATSDR: U50/ATU 398948.

**Role:** Principal Investigator

**Title:** Neurobehavioral Toxicity of Pb.

**Amount:** \$2,049,543

**Dates:** Oct. 1997-Dec.2007.

**3) Funding Agency:** National Institutes for General Medical Sciences - Minority Biomedical Research Support Program - Multi-project Program Grant, No. GM-08061-2G12R R03045

**Role:** Principal Investigator

**Title:** Membrane Na Transport Mechanisms in the Pathogenesis of Hypertension.

**Amount:** \$384,580

**Dates:** Oct. 1990-Sept.1994.

**4) Funding Agency:** U.S. Agency for International Development. Project grant, Grant No. DAN-5053-G-SS-7070-00

**Role:** Principal Investigator

**Title:** Development of Antischistosomal Agents

**Amount:** \$277,000

**Dates:** Oct. 1986-Sept.1993.

**5) Funding Agency:** National Heart, Lung, and Blood Institute- KO8,Page 2 of 11 Grant No. HL01707

**Role:** Principal Investigator

**Title:** Na Transport Mechanisms in Hypertension

**Amount:** \$265,000

**Dates:** Oct. 1985-Sept.1990.

#### Training Grants:

**1) Co-Director:** Joint Training Program to Support students in Ph.D. in Environmental Toxicology Program (with Univ. of Texas Health Science Center Toxicology Program). July, 1995-June, 2001, \$311,781, National Institute of Environmental Sciences.

**2) Principal Investigator:** Expansion of Pool of Minority Scientists in Environmental Toxicology, Sept.1994-Aug.1995, \$46,620, Centers for Disease Control & Prevention.

#### Infrastructure/Administration Grants:

**1) Principal Investigator:** Center for Toxicological Research.Oct.1992-Sept.1997, \$349,681, Centers for Disease Control & Prevention/Minority Health Professions Foundation Cooperative Agreement for Substance-Specific Research Program.

**2) Cluster Leader and Principal Investigator of a sub-project. (Dr. Henry Lewis, III, Principle Investigator):** Center for Study of Ethnic Diseases: Research in Hypertension, Oct.1, 1991-Sept. 30, 1995, \$743,851, National Institutes of Health.

**3) Project Director:** ATSDR/Minority Health Professions Foundation's Initiative in Environmental Health Research Grant. Jan. 1, 1992.-Dec.31, 1994, \$75,000, Agency for Toxic Substances and Disease Registry.

### **GRADUATE COURSES**

1. Bioethics (PHS 800): Course Coordinator
2. Advanced Biochemistry (PHS 812): Course coordinator
3. Laboratory Rotation (PHS 801): Coordinator
4. Advanced Pharmacology (PAS 943): Course Coordinator
5. Mechanisms in Toxicology (ES 902): Course coordinator
6. Neurotoxicology (ES 912)
7. Mechanisms of Toxic Actions (ES 902): Course Coordinator
8. Toxicology I (GS 130063)\*
  - a. Toxic Response of the Nervous System
9. Toxicology II (GS 130083)\*
  - a. Toxicology of Pb
  - b. \*At University of Texas Health Science Center

### **ADVISING AND MENTORING**

#### **At TSU-COPHS: Graduate Students supervised:**

1. Yokabet Gideon (Ph.D., Environmental Toxicology), graduated May, 2003.
2. Johnny Barr (M.S. Environmental Toxicology, left 12/30/02)
3. Linda Gardiner (Ph.D., Environmental Toxicology), graduated Aug. 2001, currently Assistant Dean, Graduate School, Texas Southern University, Houston, TX.
4. Oluwasanmi Areola, 1994-1998, Ph.D., Environmental Toxicology, Currently working for the City of Nashville in Toxicology program after completing a post-doctoral fellowship at Baylor College of Medicine, Houston, TX).

#### **Postdoctoral Fellows:**

1. Dr. Subbarao V. Kala (1992-1995), currently on faculty of the Baylor College of Medicine, Houston, TX.
2. Dr. Govindarajan T. Ramesh (1996-2001). Currently, on faculty of the Biology Department, Texas Southern University, Houston, TX.

### **SERVICE TO UNIVERSITY**

#### **At Roosevelt:**

**Chair, College Council, 2016-2018:** Major activities: Revised an existing draft of the By-Laws by adding the mandates in the University Constitution and the Faculty Handbook. The structure, function, and procedures of governing and standing committees were added and connected to accreditation, assessment, and the strategic plan. The By-Laws were approved in August 2016.

Currently coordinating and Chairing Council meetings focused on implementation of these By-Laws, relevant committee activities, and academic issues.

**Chair, Strategic Planning, Program, Assessment and Self Study Steering Committee, 2017-present:** Primary responsibilities: Update existing RUCOP Strategic Plan and identify assessment tools, Develop a comprehensive assessment plan for all components of the Pharm.D. program consistent with ACPE Standards, Identify programmatic strengths, weaknesses, and areas in which improvement is needed or desired using Self-Assessment Instrument rubric, Conduct meetings to update progress to College Council and seek Council's approval of the final self-study report prior to its submission to the ACPE, Promote programmatic self-evaluation and continuous quality improvement.

**Member, Peer Review Committee, 2016-2017:** Review dossier of candidates for promotion/ re-appointment and tenure and make recommendations to the Dean.

**Member, Student Scholarship Committee, 2014-2015:** Review applications/ recommendations for student scholarship awards.

**Member, Affiliate Faculty Committee, 2014-2016:** Revised eligibility criteria for appointment as affiliate faculty in COP and reviewed application for Affiliate Faculty appointments.

**Leader, Task force for Strategic Plan, Goal #1, 2012-14:** Developed performance standards for Goal 1 of the Revised Strategic Plan.

**Chair, Professional Development Committee, 2012-2014:** Lead discussions focused on professional development of new faculty. Surveyed faculty to identify areas for professional development and developed the annual professional development schedule. Made presentation to COP faculty entitled, "NIH and Research Development at RUCOP", and "Academic Research Enhancement Award" grant opportunity.

**Chair, Curriculum Committee, 2010-2011:** Lead discussions focused on structure and content of a new curriculum. Developed following documents to support these discussions: 1. Curriculum Committee Operating Procedures., 2. Use of a common syllabus template., 3. A checklist for syllabus review., and 4. COP assessment plan.

**COP Representative, University Faculty Senate, 2014-2016:** Represented COP in the faculty senate.

**Member, University Strategic Planning Committee - Task Goal Force 4, 2012-13:** Review draft statement relevant strategic goals and objectives prepared by the consultants and make recommendations for changes.

**University Planning and Budget Committee, 2010-2014:** Represent COP in budgetary discussions, provide updates to the Dean, review budgetary requests and prepare recommendations for the President

**University Assessment and Steering Committee, 2010-2012:** Represent COP in discussions related to assessment and evaluation. Shared COP assessment activities with the committee.

**Member, University Graduate Council and Executive Committee, 2010-2013:** Prepared and submitted new course forms for COP courses to the council. Reviewed and approved courses and syllabi.

**University Teaching, Learning and Research Technologies group, 2010-2012:** Represented COP on discussions related to technology needs and use.

#### **At Texas Southern University:**

**Chair, Self-Study Committee (2002-06):** Developed the self-study report for renewal of accreditation of the pharmacy program by the Accreditation Council for Pharmaceutical Education.

**Member, Curriculum Committee (2004-2008):** Review curriculum for conformity with Council of American Pharmaceutical Education professional outcomes.

**Member, Graduate School Evaluation Committee (2001-2005):** Evaluate graduate school functions and operation

**Human Subject Committee (2001-03):** Review research protocols employing human subjects. Develop guidelines and procedures for review.

**Member, Graduate School Executive Committee (1988-1996):** Reviewed and revised graduate faculty criteria, reviewed and recommended actions on variety of procedural and policy issues.

**Chair, Graduate Education and Research Committee, (1998-2001):** Organized and held meetings and recommended actions on variety issues dealing with development of new graduate programs, and research initiatives.

**Member, Graduate Council (1989-1993, 1995-96):** Reviewed applications for graduate faculty status, changes in graduate curricula, admissions criteria for graduate programs, and various issues referred to the Council by the Dean of Graduate School and the graduate faculty.

**Member, Executive Council (1991-1996):** Reviewed programmatic and administrative matters referred to the Council by the Dean of the College of Pharmacy and made recommendations.

**Member, Organized Research Committee (1988-1996):** Developed criteria for approval of seed grants. Reviewed and approved applications for seed grants.

**Member, Ph.D. in Environmental Toxicology Institutional Advisory Committee (1994-2007):** Developed, reviewed, and established criteria for admission and progression of students in the program, reviewed and approved recommendations submitted by the admissions, curriculum, and recruitment committees.

**Member, Ph.D. in Environmental Toxicology Curriculum Committee (1994-2002):** Developed a 5-year plan of course offerings, developed the joint curriculum for the TSU/UTHCS NIEHS training grant

**Chair, Radiation Safety Committee (1990-1994):** Reviewed and approved faculty requests for radiochemicals. Developed a policy & procedures manual for the use of radioactive substances.

**Member, Ph.D. in Environmental Toxicology Proposal Development Committee (1990-1993):** Developed all components of the application submitted to the Texas State Board of Higher Education seeking approval for the Ph.D. in Environmental Toxicology.

#### **NATIONAL LEVEL PARTICIPATION IN PROFESSIONAL ACTIVITIES**

**Member,** Accreditation Council for Pharmaceutical Education Site Visit Team.

**Member,** Substantive Change Site Visit Committee for Hampton University, **Southern Association of Colleges and Schools.**

**Co-Chair: Behavioral Neurotoxicology Session,** 38<sup>th</sup> Annual Meeting of Society of Toxicology, New Orleans, LA.

**Graduate and Research Liaison:** American Association of Colleges of Pharmacy,

**Review of Scientific Papers:** Member, Editorial Board: Toxic Substances Mechanisms

**Member,** Editorial Board: Toxicology Mechanisms and Methods

**Review of Research Proposals:** Member, Review Committee: Minority Health Professions Foundation's Initiative on Hypertension, Washington, D.C.

**Member, Review Committee:** Minority Health Professions Foundation's Initiative on Breast and Cervical Cancer in minority women, Atlanta, GA.

**Member, Review Committee:** Minority Health Professions Foundation's Initiative: Mississippi Delta Project, Houston, TX.

**Liaison:** Violence Prevention and Social Policy Institute, Texas Southern University, Houston, Texas.

**Panel Member:** Funding for Graduate Education, Council of Historically Black Graduate Schools, Princeton, NJ.

#### **Membership in Professional Organizations:**

- a. American Association of Colleges of Pharmacy
- b. Past member of:
  - The American Society of Pharmacology and Experimental Therapeutics
  - American College of Toxicology
  - Society of Toxicology
  - Society of Research Administrators

#### **NATIONAL LEVEL PARTICIPATION IN PROFESSIONAL ACTIVITIES**

**Member,** Substantive Change Site Visit Committee for Hampton University, **Southern Association of Colleges and Schools, April, 1999.**

**Co-Chair: Behavioral Neurotoxicology Session,** 38<sup>th</sup> Annual Meeting of Society of Toxicology, March 1999, New Orleans, LA.

**Graduate and Research Liaison:** American Association of Colleges of Pharmacy, 1990-1996, and 1998-1999.

**Review of Scientific Papers:** Member, Editorial Board: Toxic Substances Mechanisms (1995-2000).

**Member**, Editorial Board: Toxicology Mechanisms and Methods (2000-2006).

**Review of Research Proposals:** Member, Review Committee: Minority Health Professions Foundation's Initiative on Hypertension, Oct.1995, Washington, D.C.

**Member, Review Committee:** Minority Health Professions Foundation's Initiative on Breast and Cervical Cancer in minority women, April, 1996, Atlanta, GA.

**Member, Review Committee:** Minority Health Professions Foundation's Initiative: Mississippi Delta Project, July 1996, Houston, TX.

**Liaison:** Violence Prevention and Social Policy Institute, Texas Southern University, Houston, Texas.

**Panel Member:** Funding for Graduate Education, Council of Historically Black Graduate Schools, June 1996, Princeton, NJ.

**Membership in Professional Organizations:**

- c. American Association of Colleges of Pharmacy
- d. The American Society of Pharmacology and Experimental Therapeutics
- e. Past member of:
  - American College of Toxicology
  - Society of Toxicology
  - Society of Research Administrators

## **SCHOLARSHIP**

**Peer-Reviewed publications**

**Publications at Roosevelt:**

1. Jadhav, A. (2015). Neural substrates of cognitive bias and angiogenesis. *Journal of Systems and Integrative Neuroscience*, 1(1): 2-5, 2015.
2. Jadhav, A. (2011). A model for demonstrating interdependence of mission, vision, strategic and assessment plans, and educational outcomes to increase awareness of these connections among faculty and administrators. *Pharmacy Education*, 11 (1): 183 - 185.

**Publications at Texas Southern University:**

Areola O. O. Jadhav, A.L. (2005). Responsiveness of extra-cellular dopamine in the nucleus accumbens to systemic quinpirole and eticlopride is modulated by low-level lead exposure. *Environmental Toxicology & Pharmacology*, 19:323-328.

Gedeon, Y., Ramesh, G.T., Wellman, P.J., and Jadhav, A.L. (2001). Changes in mesovorticolimbic dopamine and D1/D2 receptor levels after low level lead exposure: a time study. *Toxicology Letters*, 15:123 (2-3):217-26.

Areola O. O. Jadhav, A.L. (2001). Low-level Lead exposure modulates effects of quinpirole and eticlopride on response rates in a fixed interval schedule. *Pharmacology, Biochemistry, and Behavior*, 69:151-156.

- Ramesh, G.T. and Jadhav, A. L. (2001). Levels of protein kinase C and nitric oxide synthase activity in rats exposed to subchronic low level lead. *Molecular and Cellular Biochemistry*, 223:23-33.
- Jadhav, A.L., Ramesh, G.T., and Gunasekar, P.G. (2000). Contribution of protein kinase and glutamate in Pb<sup>2+</sup>-induced cytotoxicity. *Toxicology Letters*. 115(2):89-98.
- Areola O. O. Jadhav, A.L. (2000). Low-level Lead exposure modulates effects of quinpirole and eticlopride on response rates in a fixed interval schedule. *Pharmacology, Biochemistry, and Behavior*. 69:151-156.
- Ramesh, G.T., Manna, S.K., Aggarwal, B.B. and Jadhav, A.L.(1999). Lead activates nuclear transcription factor NF $\kappa$ B, activator protein-1, c-Jun kinase and MAP kinase in pheochromocytoma cells. *Tox. Appl. Pharmacol.* 155(3):280-286.
- Areola, O.O., Williams-Johnson, M., and Jadhav, A.L. (1999). Time course of Lead distribution in tissues of rats subchronically exposed to low levels of Lead. *Tox. Sub. Mech.* 18:1-13.
- Ramesh, G.T. and Jadhav, A.L. (1998). Region-specific alterations in tyrosine hydroxylase activity in rats exposed to Lead. *Mol. Cell. Biochem.*189:19-24.
- Jadhav, A. L. and Areola O.O. (1997). Alterations in acquisition and pattern of responding in rats subchronically exposed to low levels of lead. *Res. Comm. Biol.Psychology Psychiat.* 22:11-24.
- Jadhav, A.L. and Ramesh G.T. (1997). Pb-induced alterations in tyrosine hydroxylase activity in rat brain. *Mol. Cell. Biochem:* 175:137-141.
- Kala, S.V., Hawkins, D.H., and Jadhav, A.L. (1996). Low level lead exposure to lead does not affect Nitric Oxide Synthase activity in rat frontal cortex. *Tox. Sub.Mech. J.*15 (4)333-341.
- Kala, S.V. and Jadhav, A.L. (1995). Low level lead exposure decreases in vivo release of dopamine in the rat nucleus accumbens: A Microdialysis Study. *J.Neurochem.:* 65(4):1631-1635.
- Kala, S.V. and Jadhav, A.L. (1995). Region-specific alterations in dopamine and serotonin metabolism in brains of rats exposed to low levels of Pb. *Neurotoxicology*,16(2):297-308.
- Jadhav, A.L., Kala, S.V. and Liu, Q.(1994). Renal catecholaminergic response in Lead-induced hypertension. *Tox. Sub. J.*, 14(1): 27-35.
- Mittal C.K. and Jadhav, A.L. (1994). Calcium-dependant inhibition of constitutive Nitric Oxide Synthetase. *Biochem. Biophys. Res. Comm.:* 203(1):8-15.
- Jadhav, A.L. and Quingsong, L. (1992) DA1 receptor mediated regulation of Na<sup>+</sup>-K<sup>+</sup> antiport activity in rat renal cortical brush border membrane vesicles. *Clin.Exptal. Hypertension. A14* (4):653-666.
- Vyas, S.J., Jadhav, A.L., Eichberg, J., and Lokhandwala, M.F. (1992). Dopamine receptor mediated activation of phospholipase-C is associated with the natriuresis during high salt intake. *Am. J. Physiol.* 262 (Renal Fluid Electrolyte Physiol.31):F494-F498.



- Jadhav, A.L., Lokhandwala, M.F., Ricci, A., and Amenta, F. (1991). Renal dopamine and changes in dopamine receptor ligand binding during high sodium intake. *Clin. Exptl. Hypertension*. A13 (8):1371-1381.
- Jadhav, A. L. and Sirossian, S. (1991). Development of Antischistosomal agents: Inhibitors of hypoxanthine-guanine phosphoribosyltransferase. *Drug Dev. Res.* 23:83-89.
- Jadhav, A. L. and Lokhandwala, M.F. (1990). Interactions between atrial natriuretic peptide and renal dopamine. *Eur. J. Pharmacology*, 183: 1051-52.
- Jadhav, A. L. and Lokhandwala, M.F. (1990) Renal noradrenergic and dopaminergic responses to dietary sodium in rats. *J. Human Hypertension*, 4:163-164.
- Hegde, S.S., Jadhav, A. L. and Lokhandwala, M. F. (1989) Role of the kidney dopamine in the natriuresis and diuretic responses to acute volume expansion in Rats. *Hypertension*, 13:828-834.
- DeFeo, M. L., Jadhav, A. L., and Lokhandwala, M.F. (1987). Dietary sodium intake and urinary dopamine and sodium excretion during the course of blood pressure development in Dahl salt-sensitive and salt-resistant rats. *Clin. and Exper. Hyper. -Theory and Practice*, A9 (12): 20-49-2060.
- Jadhav, A. L., Willette, R. N., Sapru, H. N. and Lokhandwala, M. F. (1983). Involvement of central dopamine receptors in the hypotensive action of pergolide. *Naunyn-Schmiedeberg's Arc. of Pharmacol.*, 324: 281-286.
- Jadhav, A. L. and Jandhyala, B. (1983). Effect of chronic vanadate consumption on blood pressure, heart rate, and Na/K/ATPase activity in adult male Wistar rats. *Arch. International Pharm. et. Ther.*, 263: 74-84.
- Jadhav, A.L., Townsend, L.D. and Nelson, J.A. (1979). Inhibition of hypo-xanthine-guanine phosphoribosyl transferase. *Biochem. Pharmacol.*, 28: 1057-1062.
- Jadhav, A.L., Bhansali, K. G. (1979). 6,6'-Azopurine, A potent inhibitor of aldehyde oxidase, *J. Pharm. Sci.*, 68: 1202-1203.
- Davis, J.R., Jadhav, A.L. and Fareed, J.H. (1974). Substituted Azopurines I: 8'8-Dioxo-6'6 azopurine. *J. Med. Chem.* 17: 639-642.

**Presentations at international meetings:**

A. L. Jadhav, and G. T. Ramesh (1999). Pb-induced cytotoxicity is associated with PKC-mediated oxidative stress. **XXXVII European Congress of Toxicology**, June 27-30, 1999, **Oslo, Norway**.

Mechanism of Attenuation of Dopaminergic Activity in Nucleus Accumbens of rats exposed to Low Levels of Lead. **Fourth International Symposium on Metal Ions in Biology and Medicine**, May 19-22, 1996, **Barcelona, Spain**.

Subchronic Pb exposure diminishes in vivo release of dopamine on nucleus accumbens. **Vth COMTOX Symposium on Toxicology and Clinical Chemistry of Metals**, July 10-13, 1995 **Vancouver, Canada.**

Kidney Dopamine Production and Dopamine Receptor Binding During Increased Sodium Intake. **Western Pharmacology Society 1991 Annual Meeting**, Jan.27-Feb.1, 1991, **Acapulco, Mexico.**

Interactions between Atrial Natriuretic Peptides and Renal Dopamine during High Sodium Intake. **XIIth International Congress of Pharmacology**, July 1990, **Amsterdam, Netherlands.**

Alterations in Kidney Dopamine Production and Dopamine Receptors during Increased Sodium Intake. Significance of Peripheral Dopaminergic System in Cardiovascular and Renal Function, **Satellite Meeting of the XIth International Congress of Pharmacology**, July 8-10, 1990, **Essen, West Germany.**

Kinetic Differences between the Purine Salvage Pathways in Human Red Blood Cells and *Schistosoma mansoni*. **VIth International Congress of Parasitology**, August 1986, **Brisbane, Australia.**

Urinary Dopamine and Sodium Excretion during the Development of Hypertension in Dahl Rats. **International Society of hypertension**, September, 1986, **Ghent, Belgium.**

Synthesis and Pharmacological Activities of Trihydroxyazapurine. **5th International Congress on Pharmacology**. Oct. 1972, **Helsinki, Finland.**

**Symposia organized and presented:**

Hypertension in Blacks. Pathophysiology and Treatment (1986), Houston, Texas (Coordinator and Speaker).

Health Care Delivery in the Current U.S. Regulatory Environment (1980). Symposium presented by the TTCCPE and Texas Southern University, Apothecary, 92 (5, 6).

A Competency-Based Computer Assisted Teaching System in Pharmacology: A mini-symposium presented during the 1983 FASEB Annual Meeting (Jadhav, A. L. and Stallings, C).

**Continuing education and other seminar presentations:**

Drug Therapy in the Elderly. TTCCPE Continuing Education Seminar. Annual meeting of the National Pharmaceutical Association, Houston, Texas, August 1985 (Coordinator and Speaker).

Drug Therapy in the Elderly. TTCCPE Continuing Education Seminar. Annual meeting of the National Pharmaceutical Association, Houston, Texas, August 1985 (Coordinator and Speaker)

Drug Therapy in the Elderly. TTCCPE Continuing Education Seminar, Houston, Texas, April 1985 (Coordinator and Speaker).

Circadian Rhythms: Implications in Modern Medicine. Space Biomedical Research Institute Lecture Series. Johnson Space Center, Houston, Texas, November 9, 1984.

Introductory Pharmacodynamics and Formulation Considerations. TTCCPE Continuing Education Seminar, Houston, Texas, April 29, 1984.

Introductory Pharmacodynamics and Formulation Considerations. TTCCPE Continuing Education Seminar, El Paso, Texas, March 11, 1984.

**Several poster and podium presentations at professional society meetings: List available if needed.**