

## Curriculum Vitae

**Daniel J. Canney, Ph.D., R.Ph.**

Chair, Department of Pharmaceutical Sciences  
Director of Graduate Studies  
Temple University, School of Pharmacy  
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### Administrative Appointments

*Chairperson*, Department of Pharmaceutical Sciences, Temple University School of Pharmacy, Philadelphia, PA 19140, (12/2012-present).

*Interim Chairperson*, Department of Pharmaceutical Sciences, Temple University School of Pharmacy, Philadelphia, PA 19140, (01/2011-12/2012).

*Director of Graduate Studies*, Department of Pharmaceutical Sciences, Temple University School of Pharmacy, Philadelphia, PA 19140, (06/2001-present).

### Faculty Appointments

- a) - *Assistant Professor of Medicinal Chemistry*, Department of Pharmaceutical Science, Temple University School of Pharmacy, Philadelphia, PA 19140. (07/93-1999)
- *Associate Professor of Medicinal Chemistry*, Department of Pharmaceutical Science, Temple University School of Pharmacy, Philadelphia, PA 19140. (07/99-present)

Faculty responsibilities include teaching at the professional and graduate levels and the direction of graduate students (M.S. and Ph.D.). Medicinal Chemistry II and III offered to pharmacy students. Advanced Medicinal Chemistry I and II, Pharmaceutical Analysis, and Principles of Drug Action offered to graduate students.

**Research interests** include the synthesis, characterization and evaluation of novel ligands for muscarinic, nicotinic, serotonin, retinoic acid receptor subtypes and amino/amido-lactone derivatives as potential anticonvulsant agents. These compounds are evaluated in a variety of *in vivo* and *in vitro* assays through collaboration with investigators at Temple (School of Pharmacy and School of Medicine) and outside the University.

- b) *Adjunct Instructor*, Temple Univ., Department of Nursing, Philadelphia, PA, 19140

(9/99-2002)

Primary responsibilities as course coordinator for Clinical Pharmacy N114, in the R.N. to B.S. program and Pharmacology for Advanced Nursing Practice N-557, in the graduate program.

**c) Research Assistant Professor**, Department of Radiology, Radiopharmaceutical Chemistry Section, University of Pennsylvania. (7/90-7/93)

Research interests included synthesis of potential organ or receptor-specific imaging agents: diamide-dimercaptide ( $N_2S_2$ )-Tc-99m complexes as organ imaging agents and hexahydro-2H-benzo[a] quinolizine analogs as radioligands and/or SPECT imaging agents for CNS monoamine uptake sites; dopamine analogs as enzyme specific SPECT imaging agents. Grant proposals (NIH, private agencies, "in house") involving the development of dopamine imaging agents and of radioiodinated ligands for the picrotoxin receptor on the GABA receptor/chloride ionophore complex were prepared.

### **Postdoctoral Training**

**Postdoctoral Fellow**, Department of Pharmacology and Molecular Biology, Washington University, School of Medicine, St. Louis, MO. (2/87-6/90)

Structure-activity studies of novel anticonvulsants under the direction of Douglas Covey and James Ferrendelli: design, synthesis, purification and characterization of neuroactive dihydro-2(3H)-furanone and thiophenone derivatives. A GC method was developed to determine brain concentrations of selected agents. Fluorinated lactones were prepared to evaluate the effects of fluorination on the pharmacological properties to these compounds. Fluorine-NMR ( $^{19}F$ -NMR) chemical shift and relaxation ( $T_1$  and  $T_2$ ) data were used to characterize the interaction of the fluoro-derivatives with brain and other tissue preparations. These potential anticonvulsant drugs were evaluated using standard anticonvulsant screening procedures in rodents ( $ED_{50}$ ), radioligand binding assays ( $IC_{50}$ ) and electrophysiology experiments.

### **Graduate Training**

**Ph.D., Medicinal Chemistry**, Temple University, School of Pharmacy, Phila., PA. (1986)

Design, synthesis, and biological testing of quinuclidine-based nicotinic ligands. Two- and 3-substituted quinuclidine derivatives were synthesized, purified and characterized as semi-rigid analogs of neurotransmitters. Compounds that did not exhibit excitatory properties in animals were evaluated as potential anticonvulsant agents. The target compounds were also evaluated as ligands for amino acid receptors and cholinergic receptors.

### **Undergraduate Degree**

**B.S., Pharmacy**, Temple University, Philadelphia, PA. (1979)

## **TEACHING**

### **Professional-level Teaching Experience (Temple University)**

- Medicinal Chemistry II, 3 sh, Course Coordinator 1995-2014
- Medicinal Chemistry II, 4 sh, Course Coordinator 2014-present
- Medicinal Chemistry III, 3sh, (Course Coordinator -2004-2012) 1994-2014
- Medicinal Chemistry III, 4sh 2015-present
- Pharmacology/Medicinal Chemistry Recitation, Co-coordinator 1995-2005
- Emerging Therapeutic Targets, Elective, 2sh, Course Coordinator 2000-2002
- Psychosocial and Clinical Aspects of Subst. Abuse & Addiction, Elective, 2sh, Course Coordinator 1999-2001
- Intro To Drug Design, Elective, 2sh, Course Coordinator 1993-1999
- Clinical Pharmacy N114 (R.N. to B.S program) 1999-2001
- Infectious Disease Management (sulfonamides, sulfones, & related drugs) Spring 1995

### **Graduate-level Teaching Experience (Temple University)**

- Advanced Med Chem I, 3sh, Course Coordinator 1994-present
- Advanced Med Chem II, 3sh, Course Coordinator 1994-present
- Principles of Drug Action and PK, 3sh, 12 lecture hours 2000-2006
- Survey Course, Principles of Drug Action, 1sh, 3 lecture hours 2006-2010
- Pharmaceutical Analysis 3sh (NMR spectroscopy) 2001-present
- Pharmacology for Advanced Nursing Practice, 3sh, Course Coordinator 1995-2001

### **Direction of Graduate Students (M.S. and Ph.D. in Medicinal Chemistry)**

- Rong Gao, Ph.D.  
05/2013  
Ph.D. Thesis Title: "Design, Synthesis and Evaluation of Novel Muscarinic Ligands".
- Richie Bhandare, Ph.D.  
01/2013  
Ph.D. Thesis Title: "Investigation into the Bioisosteric Approach in the Design, Synthesis and Evaluation of Muscarinic Receptor Ligands"
- Otito Iwuchukwu, Ph.D.,  
04/2011  
Ph.D. Thesis Title: "Synthesis and Characterization of resveratrol and its conjugated metabolites and contribution of metabolism to its decreased bioavailability".
- Sivakumar Annadurai, Ph.D.,  
10/2011  
Ph.D., Thesis Title: "Lead generation using a privileged structure-based approach"
- Shyam Desai, Ph.D.  
08/2007  
Ph.D. Thesis Title "Design and synthesis of novel ligands for retinoic acid receptors".
- Safura Nantogmah, M.S.  
08/2007

- M.S. Thesis Title: Design, synthesis and evaluation of novel silicon-based ligands for retinoic acid receptors".
- Weilin Sun, Ph.D.  
05/2005  
Ph.D. Thesis Title: "Design, Synthesis, and Evaluation of Ligands for Nicotinic Acetylcholine Receptors and Retinoic Acid receptors".
  - A. Ahungena, MS, PhD.  
03/1998  
M.S. Thesis Title: Synthesis and evaluation of novel aminomethyl/amidomethyl Derivatives of anticonvulsant gamma-butyrolactones.  
Ph.D. Thesis Title: "Design, synthesis, and characterization of substituted dihydrofuranones: Potential anticonvulsants and/or muscarinic receptor ligands."
  - Chunlin Zhao, M.S.  
09/2001  
M.S. Thesis Title: "Design, synthesis, characterization and evaluation of 2-substituted quinuclidines as ligands for central nicotinic receptors."
  - Maureen Feege, M.S.  
05/2004  
M.S. Thesis Title: "Synthesis and Evaluation of Ligands for Retinoic Acid Receptor Subtypes".

**Dissertation Advisory Committee (D.A.C.):** M.S. and Ph.D. in Pharmaceutical Sciences)

|            |  |
|------------|--|
| M.S. 1994  | Steve Gallicchio (Reading)   |
| M.S. 1995  | A. Ahungena (Chairperson, Thesis Advisory Committee)   |
| Ph.D. 1998 | Wei Zheng (Reading) Synthetic approaches to the anthracycline antibiotic daunomycin and analogues. |
| M.S. 1998  | Min Zhang (Chairperson, Thesis Advisory Committee)   |
| M.S. 2001  | Chunlin Zhao (Chairperson, Thesis Advisory Committee)  |
| Ph.D. 2000 | Christine Vianna-Soares (Thesis Advisory Committee)  |
| Ph.D. 2001 | Chris Kremmerer (Thesis Examining Committee)   |
| Ph.D. 2002 | Robert Schulingkamp (Thesis Advisory Committee)  |
| Ph.D. 2004 | Shawn Spencer (Thesis Advisory Committee)  |
| Ph.D. 2004 | Kate Wu (Thesis Advisory Committee)  |
| M.S. 2004  | Maureen Feege (Chairperson, Thesis Advisory Committee)   |
| Ph.D. 2005 | Lisa Tao (Thesis Examining Committee)  |
| Ph.D. 2005 | Weilin Sun (Chairperson, Thesis Advisory Committee)  |
| Ph.D. 2006 | Gregory Stagliano (Thesis Advisory Committee)  |
| M.S. 2007  | Safura Nantogmoh (Chairperson, Thesis Advisory Committee)  |
| Ph.D. 2007 | Shyam Desai (Chairperson, Thesis Advisory Committee)   |
| Ph.D. 2011 | Otito Iwuchukwu, Ph.D., (Thesis Advisory Committee)  |
| Ph.D. 2011 | Sivakumar Annadurai (Chairperson. Thesis Advisory Committee)                                       |
| Ph.D. 2012 | Richie Bhandare (Chairperson, Thesis Advisory Committee)   |
| Ph.D. 2013 | Rong Gao (Chairperson, Thesis Advisory Committee)  |

|                    |  |
|--------------------|--|
| Ph.D. 2013         | Cara Young (Thesis Advisory Committee)                     |
| Ph.D. 2014         | Vishnu Sharma (Thesis Advisory Committee)                  |
| Ph.D. 2014         | Suleyman Akocak (Thesis Advisory Committee)                |
| Ph.D. 2015         | Suzan Owaisat (Thesis Advisory Committee)                  |
| Ph.D. 2015         | Cong Li (Thesis Advisory Committee)                        |
| Ph.D. 2015         | Christopher R. Cammarata (USP; External Reader; Dr. Ofner) |
| Ph.D. 2006-present | Obioma Chikwendu (Thesis Advisory Committee)               |
| Ph.D. 2010-present | Rong Fan (Thesis Advisory Committee)                       |
| Ph.D. 2010-present | Nicole Lounsbury (Thesis Advisory Committee)               |
| Ph.D. 2010-present | Kevin Blattner (Co-Adviser; Thesis Advisory Committee)     |

### **Pharmaceutical Industry, Post B.S. Training Program**

Training Program set up in conjunction with Astra-Zeneca Pharmaceutical whereby the trainee spends 8 months in our lab obtaining practical synthetic experience. The trainee then goes on for further training at Astra-Zeneca with the goal of finding employment in the Med. Chem. Dept. of the company.

|  |             |
|--|-------------|
| 1) Lucius Kemp, Medicinal Chemistry Training Program       | 02/95-10/95 |
| 2) Caprice Hightower, Medicinal Chemistry Training Program | 08/98-04/99 |
| 3) Maureen Feege, Medicinal Chemistry Training Program     | 01/03-03/04 |

### **Temple University-Sponsored Minority Postdoctoral Fellow**

- Serge Jasmin, Ph.D. (Organic Chemistry) 7/96-07/97  
Project: Design and synthesis of nicotine-based ligands for central nicotinic receptors.

### **Visiting Scholar/Postdoctoral Fellows:**

- Professor Huri Piao (professor of medicinal chemistry) 02/'02-02/'04  
College of Pharmacy, Yanbian University, China.  
Project: Design and Synthesis of Subtype-Selective Ligands for Retinoic Acid Receptors

### **Direction of Undergraduate Student Research**

- Martha Abraham, Fall, 1993; Maya Nair, Fall, 1994; Elizabeth Koshy, Fall, 1994; Kai Kwok, Spring (1995); Thuhuyen Nguyen, Summer, 1995; Linda Phan, Fall, 1995; Thuy Trang Nguyen and Quynh Thu Pham, Summer 1996; Inessa Giverts, Fall 1997; Maryanne Genkil, Spring, 1997; Julia Gerzon, Spring, 1998.
- Served as Liaison for Omaira Melendez for an AACP sponsored Fellowship (1996)
- Minority Access to Research Careers program (MARC). Directed the summer research project of Adelaida Matias (Little Flower High School) during the summers of 96, 97, 98.
- Bridging the Gaps, Summer, 1998-2000. Served as a faculty preceptor for student internship program. Our site was "People with Hope", 1834 W. Tioga, an alcohol and drug recovery program in the North Philadelphia area.

## **SERVICE**

### **Director of Graduate Studies**

- Oversee all applications for graduate programs (MS, PhD, Pharmaceutical Sciences and MS in QA/RA programs).
- Chairperson of the Graduate Committee
- Serve as Chair of Examining Committee for all MS and PhD defenses.
- Advise all new graduate students for first year
- Supervision of Ms Almira Cutler (and Ms Sophon Din in conjunction Dept Chairperson)
- Surveys and reports regarding graduate student data (e.g., AACP, NSF, NIH).
- Updating of Graduate Bulletin and new course submissions
- Updating Graduate programs Website
- Appeals Committee of the Graduate Board
- Dissertation Completion Awards Subcommittee
- University Fellowship Committee
- University Fellowship recipient Subcommittee

### **Committees (National: Professional Organizations)**

|  |              |
|--|--------------|
| AACP, Research and Graduate Affairs Committee          | 2008-2009    |
| AACP, Chemistry Section's Strategic Planning Committee | 2011-2012    |
| AACP, Medco Scholars Program Evaluation Committee      | 2011-2012    |
| AACP, Chemistry Section Nominating Committee           | 2012-2013    |
| AACP, Express Scripts Scholars Evaluation Committee    | 2012-present |
| AACP, Reviewer of New Investigator Award Applications  | 2013-present |

### **Committees (University)**

|  |               |
|--|---------------|
| Graduate Board   | 06/02-2011    |
| Appeals Committee, Graduate Board                            | 06/02-2008    |
| Fellowship Committee, Graduate Board                         | 09/08-2011    |
| Environmental Health and Safety Committee                    | 01/01-present |
| Faculty Senate   | 12/95-2002    |
| Faculty Senate Steering Committee Representative             | 06/97-2002    |
| Trustee's Committee on Athletics                             | 08/97-1999    |
| Medical Radiation Committee (MRC)                            | 07/97-2000    |
| Radioactive Drug Research Committee (RDRC)                   | 07/97-2000    |
| Teaching, Learning, and Technology Committee (Main Campus)   | 01/95-01/96   |
| Drug-Free Schools Committee (Formerly D.A.R.E Program, CASA) | 7/98-2003     |

### **Committees (School)**

|  |               |
|--|---------------|
| Executive Committee  | 2002-present  |
| Dean's Task Force for Academic Opportunities & Initiatives | 2012-2013     |
| Graduate Committee (Chairperson since 06/2002)             | 06/94-present |
| Curriculum Committee                                       | 2002-'05;     |
| 2011-present   |               |

|   |                        |
|---|------------------------|
| Faculty Committee for AACP Accreditation (Chairperson)                  | 04/03- 2004            |
| Faculty Committee for AACP Accreditation (Co-Chairperson)               | 12/09-10/10            |
| Faculty Search Committee (Medicinal Chemistry Position)                 | 2005-2006              |
| Faculty Search Committee (Medicinal Chemistry Position)                 | 2009                   |
| Faculty Search Committee (Medicinal Chemistry Position)                 | 2010                   |
| Task Force: Development of New Concentration in Pharmacodynamics, Chair | 2003-2004              |
| Committee on Addiction and Substance Abuse (C.A.S.A.)                   | 07/97-present          |
| Merit Committee   | 05/05, 05/07,<br>12/10 |
| Promotion and Tenure Committee (Dr.Ciftci, Dept,)                       | 2002-2003              |
| Promotion and Tenure Committee (Dr.Neau, Chairperson, Dept,)            | 2002-2003              |
| Promotion and Tenure Committee (Dr. Gallo, Chairperson, Dept,)          | 2003                   |
| Promotion and Tenure Committee (Dr Nnane, Chairperson, School,)         | 2004                   |
| Promotion Committee (Dr. Sifontis; Chairperson, School)                 | 2007                   |
| Promotion and Tenure Committee (Dr Rawls, Chairperson, School)          | 2009                   |
| Promotion and Tenure Committee (Dr Nagar, Chairperson, School)          | 2010                   |
| Promotion and Tenure Committee (Dr. Krynetskiy, Chairperson, School)    | 2010                   |
| Faculty Search Committee (Pharmacodynamics Position)                    | 01/2002-2003           |
| Dean's Advisory Committee on Admission Standards                        | 07/95-05/96            |
| Teaching and Evaluation Committee (Chairperson, 1995-99)                | 12/95-2001             |
| Chairperson, Faculty Search Committee, Pharmacology                     | 09/95-01/96            |
| Ad Hoc Committee on Collegial Bylaws (Chairperson)                      | 01/02-05/02            |
| Collegial Assembly Steering Committee (FSSC rep)                        | 06/97-2002             |
| Admissions Steering Committee, Professional Program                     | 07/93-2002             |

### **Service (University)**

- International Graduate Student Orientation (speaker) 2015  
(Ritter Hall, Walk Auditorium: Topic; Pitfalls to Avoid in Graduate Education)
- Marshall for University Commencements and Convocations  
2004-2014
- Upward Bound, Temple University 2012-present  
(2012, Armed for Action Conference, University of Pennsylvania; 04/04/2012)  
(2014, Career Panel Discussion, Howard Gittis Student Center; April 1, 2014)

### **Service (Pharmacy School)**

- *Faculty Advisor*, Rho Chi Pharmaceutical Honor Society
- *Founder and Faculty Advisor*, Committee on Addiction and Substance Abuse (C.A.S.A).
- Contributor to ***Chemical Dependency Awareness Program***, October 6<sup>th</sup>, 2009  
Half-day program presented to PY3 students and endorsed by SARPH (Pharmacist Recovery Network in PA) - What is Addiction? The Disease Model
- *Faculty Liaison* for pharmacy students and Secundum Artem Reaching Pharmacists with Help (S.A.R.P.H.).
- *Board of Directors*, Alumni Association of Temple University, School of Pharmacy.
- *Wyeth Centennial Lecture Series on Drug Discovery*; co-coordinator of event and served as contact for guest speakers during the Fall and Spring semesters, 2002-03 (5 lectures).

### **Grant/Abstract Reviewer**

|   |              |
|---|--------------|
| N.I.H., SBIR grant reviewer                     | 2012-present |
| AAAS, Research Competitiveness Program, (KACST) | 2011-present |
| AAPS, Annual Meeting Poster reviewer            | 2012-present |
| AACP, New Investigator Award Applications       | 2014-present |

### **Journal Reviewer**

|   |              |
|---|--------------|
| ● Journal of Medicinal Chemistry                        | 2009-present |
| ● Journal of Pharmacology and Experimental Therapeutics | 2003-present |
| ● Organic Letters                                       | 2015-present |
| ● Tetrahedron Letters                                   | 2013-present |
| ● Biochemical Pharmacology                              | 2003-present |
| ● Journal of Pharmaceutical Education                   | 2004-present |
| ● Medicinal Research Reviews                            | 2007-present |
| ● Medicinal Chemistry Research                          | 2010-present |
| ● Medicinal Chemistry Journal                           | 2009-present |
| ● Bioorganic and Medicinal Chemistry Letters            | 2011-present |
| ● Pharmacy Times  | 2003-2004    |
| ● Perspectives in Medicinal Chemistry                   | 2010-present |

### **Textbook Reviewer**

- **Instant Notes in Medicinal Chemistry**, Bios Scientific Publishers Ltd., 2000
- **Microwaves in Organic Synthesis**,
- **Medicinal Chemistry for Pharmacy Students**, ASHP, 2008
- **Medicinal Chemistry: Foundational Concepts and Therapeutic Applications**: ASHP, 2010

### **Associate Editor**

- *Life Sciences*: Board of Associate Editors 2013-2016

### **Editorial Advisory Boards**

- Medicinal Chemistry: Current Research ([OMICS Publishing Group](#)) 2010-present
- Drug Design Reviews-Online (Bentham Science Publishes Ltd) 2003-2006
- Medicinal Chemistry (Bentham Science Publishes Ltd) 2004-present
- Perspectives in Medicinal Chemistry 2006-present
- International Journal of Organic Chemistry 2011-present

### **Service (Community)**

- **Faculty Liaison** for pharmacy students and Secundum Artem Reaching Pharmacists with Help (S.A.R.P.H.), the Pharmacist Recovery Program in Pennsylvania serving both pharmacists and pharmacy students with substance abuse problems.
- **Science Fair Judge**, Gwyned Mercy Academy Elementary School Spring 2012-14  
Spent the afternoon serving as judge for science fair projects presented by 7<sup>th</sup> and 8<sup>th</sup> graders.



- ***Bridging the Gap Project*** Summer, 1998-2000  
This community health internship program is designed to broaden health professional student training through service to under-served communities. Site; People with Hope, an alcohol and drug rehab facility in North Philadelphia.
- **George Washington Carver Science Fair**, Phila, PA, March, 1997  
Sponsored Adelaida Matias who presented her research at the fair.
- ***Delaware Valley Science Fairs Inc.*** 1998-1999  
Certificate of Appreciation awarded for sponsoring students involved in the science fairs.
- ***Minority Access to Research Careers (MARC) Program*** 1996-2000  
Adelaida Matias, a student at Little Flower High School for Girls, spent summers in my medicinal chemistry laboratory. The student prepares a research proposal and gives a presentation on the project at the end of the summer.

## **RESEARCH/SCHOLARSHIP**

### **Grants**

- **Funded:** STTR Grant # 1 R41 AG052249-01. Novel Sigma-2 receptor antagonists for the treatment of Alzheimer 's Disease. 10% effort, Co-Investigator, National Institute of Health, budget period 09/01/2015 - 08-30-2016, \$298,500.00.
- **Funded:** Grant # 1R03CA133943-01A1, Conjugation of anticancer drugs, Swati Nagar,, PhD, PI, Daniel Canney, PhD, Co-Investigator, National Cancer Institute, \$150,000, 10 % effort, budget period 06/01/2009 - 05/31/2011.
- **Submission:** STTR Grant # 1 R41 DK111330-01. Novel 5-HT<sub>7</sub> Antagonists for the treatment of inflammatory bowel disease. 10% Effort, Co-Investigator, N.I.H., Budget Period 07/01/2016-06-30-2017, \$153,500.
- **Submission:** Grant 255827. 5-HT<sub>7</sub> Antagonist for the Treatment of IBD, Benjamin Blass, PhD and Daniel Canney, PhD, PIs, National Institute of Diabetes and Digestive and Kidney Diseases/NIH/DHHS, 15 % effort, budget period 04/01/2016 - 03/31-2021, *re-submission*.
- **Submission-**Grant 255827. 5-HT<sub>7</sub> Antagonist for the Treatment of IBD, Daniel Canney, PhD, PI, National Institute of Diabetes and Digestive and Kidney Diseases/NIH/DHHS, *not funded*, 15 % effort, budget period 04/01/2015 - 03/31/2018.
- **Submission-**Grant # 1R01-CA156126-01. Role of trans-resveratrol conjugation in colorectal cancer chemoprevention, Swati Nagar,, PhD, PI, Daniel Canney, PhD, Co-investigator, National Cancer Institute, *not funded*, 10 % effort, budget period 12/01/2010 - 11/30/2015.
- Grant-in-Aid of Research. Project title: Evaluation of Newly Designed Muscarinic Ligands in Radioligand Binding Assays. Funds obtained through the University are being used to evaluate test compounds in binding assays at CEREP.  
Budget period 01/01/09 – 12/31/09 \$ 3,000.00
- **Industry-sponsored Training Program in Medicinal Chemistry** (8/02-8/2004) \$25,000.00  
Zeneca Pharmaceuticals sponsored a program whereby an M.S. graduate student was supported as an RA while obtaining practical laboratory experience in medicinal chemistry at Temple University, School of Pharmacy.
- New, Previously Unfunded Directions for Established Investigators Grant Program (Office of

- Vice-Provost for Research) Design, synthesis, and evaluation of subtype-selective ligands for retinoic acid receptors. (01/2003-01/2005) \$48,000
- in addition to providing funds for supplies and small equipment, the grant is supporting a research scholar salary for one year.
  - *Wyeth Research Grant* (8/2002-05/2003) \$10,000
    - With matching funds from the Pharmacy School's administration, the funds supported a graduate student as a research assistant for one year.
  - *Summer Research Fellowship*, Temple University (Summer, 2001) \$4,500.00  
"Design, Synthesis and evaluation of subtype-selective ligands for retinoic acid receptors."
  - *Research Incentive Fund* (R.I.F.) of Temple University (06/00-06/01) \$4,000.00  
"Bioisosteric Replacement in the Development of Novel Ligands for Neuronal Nicotinic Receptors."
  - *Summer Research Fellowship*, Temple University (Summer, 1999) \$4,500.00  
"Synthesis and preliminary screening of lactone-based and quinuclidine-based compounds as ligands for histamine receptor subtypes in the brain."
  - *Research Incentive Fund* (R.I.F.) of Temple University (06/98-06/99) \$2,500.00  
"Design Synthesis, and Evaluation of Two (2)-Substituted Quinuclidines as Central Nicotinic Ligands."
  - *Industry-sponsored Training Program in Medicinal Chemistry* (4/98-4/99) \$25,000.00  
Zeneca Pharmaceuticals sponsors a program whereby B.S. chemists obtain practical laboratory experience in medicinal chemistry at Temple University, School of Pharmacy.
  - *Grant Program for New Investigators* (A.A.C.P.; 1996-1997) \$10,000.00  
"Structure-Activity Studies involving  $\alpha$ -Alkyl- $\gamma$ -Amino/Amido-Substituted  $\gamma$ -Butyrolactones and  $\gamma$ -Thiobutyrolactones: Potential Anticonvulsant Agents.
  - *Industry-sponsored Training Program in Medicinal Chemistry* (1994-95) \$25,000.00  
Zeneca Pharmaceuticals had provided the funding prior to my arrival with the understanding that it would be used for the training of a B.S. chemist. Following my arrival, I began the interview process and later hired and trained Lucius Kemp. Mr. Kemp is employed currently in the Medicinal Chemistry Dept at Zeneca Pharmaceuticals and has been quite successful.
  - *Summer Research Fellowship*, Temple University (Summer, 1995) \$4,500.00  
"Development of iodinated trioxabicyclooctanes and 1,3-dithianes: High affinity ligands for the picrotoxin receptor on the GABA<sub>A</sub> receptor complex."
  - *Summer Research Fellowship*, Temple University (Summer, 1997) \$4,500.00  
"Development of Quinuclidine-Based Derivatives of Ethyl (3-Quinuclidinyl)acetate (EQA) as Potential Ligands for Central Cholinergic Receptors."
  - *Research Incentive Fund* (R.I.F.) of Temple University (1994-1995) \$3,000.00  
"Synthesis and structure-activity studies involving 3-substituted quinuclidine derivatives: Ligands for the nicotinic receptor."
  - *ACCP/Merck Research Participation Program* \$7,000.00  
Pharmacy Student Training Grant, in collaboration with Dr. Borenstein. (O. Melendez, \$6,000 for tuition; \$1,000 for lab supplies; 1996) "Correlations Between Hydrophobicity Constants and the Anticonvulsant Potency of Substituted  $\gamma$ -Butyrolactones."

### Contracts

- *Targacept/Temple University Contract* 12/97-2001

"Evaluation of substituted quinuclidine-based and gamma-butyrolactone-based compounds as potential nicotinic ligands" Targacept, Inc. (Winston-Salem) and Temple University have entered into an agreement whereby test compounds from my laboratory are evaluated as cholinergic ligands in *in vivo* and *in vitro* assays. The data collected was presented at meetings and published in scientific journals..

- Wyeth Research – Material Transfer Agreement 2007-2009

"Evaluation of novel compounds prepared as ligands for retinoic acid receptors in various nuclear receptor and possibly other assays." Wyeth Research and Temple University have entered into an agreement whereby test compounds from my laboratory are evaluated as ligands for nuclear receptors in *in vitro* assays. The data collected will be presented at meetings, published in scientific journals, and ultimately may provide data for grants to fund the project.

### **Honors, Societies, and Associations**

Temple University, Outstanding Faculty Service Award (October, 2012)

American Association of Colleges of Pharmacy (AACP)

American Chemical Society (ACS)

American Pharmaceutical Association (APhA)

Rho Chi Pharmaceutical Honor Society, Faculty Advisor

Member, Rho Chi Pharmaceutical Honor Society

Teacher of the Year Award, AACP (June, 1998)

Board of Directors, Alumni Association of Temple University

Member, Phi Delta Chi Pharmacy Fraternity

### **Invited Lecturer**

- a. NMIMS, School of Pharmacy and Technology Management, Mumbai, India, and Bombay College of Pharmacy, July, 2015. Presented a seminar at each institution on research ongoing in my laboratory. Title: *Lead modification approaches in the design, synthesis and evaluation of ligands for GPCRs.*
- b. Tour of Universities in China to promote the Dual BS-MS Degree program with Temple's Office of International Affairs (**May and October 2013**). Topic: *Lead modification approaches in the design, synthesis and evaluation of novel muscarinic ligands.* The talk was given at the four Universities below:
  - Xiamen University
  - Nankai University
  - University of Science and Technology of China (USTC)
  - China Pharmaceutical University (CPU)
- c. J & J Pharmaceutical Research and Development/ Temple University Scientific Development Series (**01/17/2002**). Fundamentals of Medicinal Chemistry Series. Topics: I) From Hunch to Hansch and beyond and II) Structural Modifications of a Lead.

- d. Delaware State University, Department of Chemistry, October 16, **2002**. Topic: *Nicotine Receptors in Brain as Therapeutic Targets for Drug Development*.
- e. Department of Pharmacology Seminar Series, Temple University, School of Medicine. (**Spring, 99**) Topic: *Design, Synthesis and Evaluation of Substituted Quinuclidines as Ligands for Nicotinic Acetylcholine Receptors*.
- f. Philadelphia College of Pharmacy and Science (PCPS; **11/13/97**); PCPS Chapter of Sigma Xi, The Scientific Research Society  
Topic: *Anti-Epileptic Drugs: Treatment History and Current Research in Drug Development*

### **Consulting/Expert Witness for Major Pharma Innovators and Pharmacy Practice Cases.**

- **2014:** Expert witness for Sandoz in connection with Sandoz v Astellas Inc. Patent on a brand name medication was challenged. My contribution focused on medicinal chemistry related issues including stereochemistry, and what a person skilled in the art back in the mid-1990's would have concluded after reading the patent. Supplied affidavit and deposition. Miller Thomson is the Canadian law firm representing Sandoz.
- **2007:** Consulted for Wyeth in connection with Wyeth v. Cordis Corp., C.A. No. 06-663-SLR and Cordis Corp. v. WYETH and WYETH Pharms Div., C.A. No. 2504-N. (involved Drug eluting stent (DES), i.e., Metal stent coated with rapamycin (PK, chemistry, structure-activity relationship (SAR) issues discussed). No deposition or court appearance necessary. Wilmer Hale was the law firm representing Wyeth.
- **2007:** Expert witness as a licensed pharmacist with background/interest in drug abuse issues. Pharmacy practice case in the Washington DC Court of Appeals, No 07-CV-1163, CAB1070-06 (patient v. practitioner/pharmacy). The case involved questionable dispensing of opiates and benzodiazepines (controlled substances) to a patient over the course of several years leading to dependency (provided affidavit, deposition). Roy Carleton Howell was the attorney handling the case on behalf of plaintiff. No trial testimony required. Patents and patent applications

### **Patents and patent applications**

- Novel Sigma-2 receptors binders and their method of use, Canney, D.J.; Gao, R.; Abou-Gharbia, M.; Blass, B. E., US Provisional 62 160, 355, **2015**.
- Preparation of dihydrofuran-2(3H)-one derivatives as 5-hydroxytryptamine receptor 7 activity modulators, Canney, D. J.; Gao, R.; Abou-Gharbia, M.; Blass, B. E. WO2014164756, **2014**.

- Novel Disubstituted oxazolidin-2-ones 5-HT<sub>2b</sub> activity modulators and their method of use, Canney, D. J.; Bhandare, Richie R.; Blass, B. E.; Abou-Gharbia, M., WO2014085413, **2014**.
- Novel 5-hydroxytryptamine receptor 7 activity modulators and their method of use, Canney, D.J.; Gao, R.; Abou-Gharbia, M.; Blass, B. E. US Provisional 61, 776,117, **2013**.
- Novel disubstituted oxazolidin-2-ones 5-HT<sub>2b</sub> activity modulators and their method of use, Canney, D. J.; Bhandare, Richie R.; Blass, B. E.; Abou-Gharbia, M., US Provisional 61,730,807, **2012**.

### **Publications**

#### **Monographs**

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- **Canney, D.J.:** Monographs on Antimuscarinic and Antispasmodic Drugs in Remington: The Science and Practice of Pharmacy, 22<sup>nd</sup> Edition, Loyd V. Allen (ed.), Pharmaceutical Press, London, UK, September, **2012**.

#### **Book Chapters**

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- Bhandare, R., **Canney, D.J.**, and Kharkar, P. Novel  $\gamma$ -Butyrolactone Derivatives as Muscarinic Receptor Antagonists: Pharmacophore Elucidation and Docking Analyses, Proceedings of *ICPAC*, Springer, **2014**.

#### **Peer-reviewed journal articles**

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2. Gao, R., Fan, R., **Canney, D.J.** Synthesis of  $\beta,\beta$ -disubstituted  $\gamma$ -butyrolactones by chemoselective oxidation of 1,4-diols and  $\gamma$ -hydroxy olefins with RuCl<sub>3</sub>/NaIO<sub>4</sub>, *Synlett*, **2015**, 26(05): 661-666. (DOI: 10.1055/s-0034-1379614)

3. Bhandare, R., **Canney, D.J.** Bioisosteric replacement in the design, synthesis and evaluation of ligands for muscarinic acetylcholine receptors, *Medicinal Chemistry Journal* (Bentham), **2014**, *10(4)*:361-375.
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6. Sharan, S., Iwuchukwu, O. F., **Canney, D.J.**, Zimmerman, C.L., Nagar, S. In-vivo Formed Versus Preformed Metabolite Kinetics of Trans-resveratrol-3-sulfate (R3S) and Trans-resveratrol-3-glucuronide (R3G). *Drug Metab Dispos.*, **2012** Oct;40(10):1993-2001.
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8. Nantogmah, S., Desai, S., Bhandare, R., Gabriel, J., Soprano, D., **Canney, D.J.** Synthesis and Preliminary Evaluation of Affinity for Retinoic Acid Receptors for Novel Organosilicon-Based retinoids. *Pharmaceutical Chemistry Journal*, **2012**, *45(10)*, 612-621.
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## **Abstracts**



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