

## CURRICULUM VITAE

# Kim D. Janda, Ph.D.

### Current Status:

Business Address: The Scripps Research Institute, Department of Chemistry  
The Skaggs Institute for Chemical Biology  
The Worm Institute of Research & Medicine

Maildrop: BCC-582  
10550 North Torrey Pines Road  
La Jolla, CA 92037

Business Telephone: (858) 784-2516

Business Fax: (858) 784-2595

Current Positions: Ely R. Callaway Jr., Professor of Chemistry,  
The Scripps Research Institute, Departments of Chemistry  
& Department of Immunology and Microbial Science  
Skaggs Scholar, The Skaggs Institute for Chemical Biology  
Director, Worm Institute of Research and Medicine (WIRM)

### Education:

1980 B.S. Clinical Chemistry, University of South Florida

1983 M.S. Organic Chemistry, University of Arizona,  
Thesis title: Synthesis of Diphenyl Ethers as Related to the Anti-tumor  
Agent Deoxybouvardin.

1984 Ph.D. Organic Chemistry Major, Medicinal Chemistry Minor, University of Arizona,  
Dissertation title: Progress Towards a Synthesis of Deoxybouvardin and  
Analogues: New Synthetic Methods; Ph.D.

### Professional Record:

1985-1986 *Postdoctoral Fellow*, Department of Molecular Biology  
Research Institute of Scripps Clinic, La Jolla, CA

1987-1988 *Adjunct Assistant Professor*, Department of Molecular Biology  
Research Institute of Scripps Clinic, La Jolla, CA

1989-1990 *Assistant Professor*, Department of Molecular Biology  
Research Institute of Scripps Clinic, La Jolla, CA

1991-1992 *Associate Professor*, Departments of Molecular Biology and Chemistry  
The Scripps Research Institute, La Jolla, CA

1993 *Associate Professor* (tenured), Departments of Molecular Biology and Chemistry  
The Scripps Research Institute, La Jolla, CA

1996 *Associate Professor*, The Skaggs Institute for Chemical Biology  
(joint appointment), The Scripps Research Institute, La Jolla, CA

1996-present *Professor*, Department of Chemistry  
The Scripps Research Institute, La Jolla, CA

1996-present *Ely R. Callaway Jr., Chair in Chemistry*  
The Scripps Research Institute, La Jolla, CA

1996-present *Skaggs Scholar*  
The Skaggs Institute for Chemical Biology, La Jolla, CA

- 2005-present *Professor*, Departments of Chemistry & Immunology and Microbial Science  
The Scripps Research Institute, La Jolla, CA
- 2005-present *Director*, The Worm Institute of Research & Medicine (WIRM)  
The Scripps Research Institute, La Jolla, CA

**Honorary, Professional Organizations and Awards:**

- 1979-1980 Scholar Athlete of the Year, University of South Florida
- 1980 Magna Cum Laude; Phi Beta Kappa, University of South Florida
- 1981-present Member, American Chemical Society
- 1984 Carl S. Marvel Fellowship, University of Arizona
- 1986 Fellow, American Institute of Chemists
- 1990-1995 NIH FIRST Award
- 1993-1995 Alfred P. Sloan Fellowship
- 1995 Zeneca Lectuer, Colorado State University
- 1999 Arthur C. Cope Scholar Award
- 2000 J. Clarence Karcher Lecturer, University of Oklahoma
- 2001 Outstanding Alumnus in Chemistry, University of South Florida
- 2002 Shire BioChem Lecturer, Universite de Montreal, Montreal, Canada
- 2002 Rayson Huang Visiting Lecturer, University of Hong Kong, Hong Kong, China
- 2002 Sigma-Aldrich Lecturer, Milwaukee Section ACS, Milwaukee, WI
- 2003 Keynote Speaker, Graduate Student Symposium, University of Michigan
- 2003 GSO Speaker, University of North Carolina
- 2003 Biomolecular Student Lecturer, Emory University
- 2003 Elected Fellow of American Association for the Advancement of Science
- 2006 Office of Life Sciences Distinguished Lecture, National University of Singapore
- 2006 Discover magazine's "Top 100 Science Stories of 2006" for Obesity Vaccine work
- 2009 Doctor of Philosophy honoris causa, University of Helsinki, Finland
- 2009 E. Lilly Distinguished Lecturer
- 2010 Harold A. Iddles Lecture, Chemistry Dept, University of New Hampshire, Durham
- 2010 Harvey W. McFadden, Jr., M.D. Lecture, Department of Pathology & Microbiology, University of Nebraska Medical Center
- 2010 Molecule of the Week (3,4-Diaminopyridine)  
American Chemical Society, (January 10, 2011)
- 2012 Arran Thomas Amadeo Streppa Memorial Lecture,  
Sealy Center for Vaccine Development Symposium
- 2012 10<sup>th</sup> Raymond N. Castle Student Research Conference Plenary Lecture,  
University of Southern Florida
- 2015 Path to Recovery Honoree, presented by A New PATH (Parents for Addiction Treatment & Healing), for developing research towards a heroin addiction vaccine
- 2015 Xingda Lecturer, Peking University, College of Chemistry, Beijing, China
- 2015 Distinguished Seminar Lectureship Speaker, Department of Medicinal Chemistry,  
University of Minnesota, Minneapolis, Minnesota
- 2017 ACS Alfred Bader Award in Bioorganic Chemistry
- 2019 Wolk Lectureship Speaker, Colgate University
- 2019 Portuguese Lectureship Award, ACS Division of Medicinal Chemistry

**Previous External Committees and Boards:**

2008-2010 Investment Committee - The Skaggs Institute for Research  
2006-2010 Member of the Board of Trustees - The Skaggs Institute for Research

**Editorial Review Boards:**

2002-present *Chemical Reviews*, Advisory Board  
2004-present *Bioorganic & Medicinal Chemistry Letters*, Advisory Board  
2008-present *Bioorganic & Medicinal Chemistry*, Associate Editor  
2008-present *Bioorganic & Medicinal Chemistry*, American Regional Editor  
2008-present *Tetrahedron Publications*, Executive Board of Editors  
2009-present *The Botulinum Journal*, Advisory Board  
2009-present *Immunotherapy*, Editorial Board  
2010-present *Beilstein Journal of Organic Chemistry*, Advisory Board  
2011-present *PLoS ONE*, Associate Editor

**Editorial Positions held previously:**

1997-2003 *Combinatorial Chemistry and High-Throughput Screening*  
1997-2003 *Combinatorial Chemistry Research and Applications*  
1999-2004 *Journal of Combinatorial Chemistry*  
2008-present *Journal of Medicinal Chemistry*, Advisory Board

**Companies Founded:**

CombiChem  
Drug Abuse Sciences  
AIPartia  
Cessation Therapeutics

**Current Consulting Agreements:**

Sorrento Therapeutics, Inc.

**Scientific Advisory Boards:**

Materia, Inc.  
Singapore Ministry of Education (MOE), EP1 Physical Sciences  
Sorrento Therapeutics, Inc.  
Cessation Therapeutics

**Scientific Advisory Positions held previously:**

Drug Abuse Sciences  
Joint Scientific Council Committee, Novartis/TSRI  
Steering Committee, Novartis/TSRI  
EPIcyte Pharmaceutical, Inc.  
Chembiotek Research International (TAB)  
ProKinase Research Consortium  
EU Integrated Project: "Protein kinases – Novel drug targets of post genomic era"

**Peer Review Committees:**

1993 Department of Energy (Materials Science Section)  
1994 National Science Foundation (Bioorganic Section)  
1994 National Institutes of Health (Bioorganic and Natural Products Section)

1996-1999 Long Range Planning Committee, ACS Medicinal Chemistry  
1997-1999 NIDA Special Emphasis Study Section  
2001 NIH Special Study Section B  
2002 NIAID Study Section: Partnerships for Novel Therapeutics, Diagnostic and Vector Control Strategies in Infectious Diseases  
2002 NSF CAREER Development Award Study Section  
2003 NIAID Study Section (Chairman): Collaborative Research for the Development of Vaccines, Adjuvants, Therapeutics, Immunotherapeutics, and Diagnostics for Biodefense  
2003 NIAID Study Section (Chairman): Regional Centers of Excellence for Biodefense And Emerging Infectious Diseases Research  
2004 NIAID Study Section: Enhancement Awards for Underrepresented Minority Scientists  
2004 NIH Special Emphasis Panel on Bacterial Pathogenesis  
2004 NIGMS Bioorganic and Natural Products Chemistry Study Section  
2005 NIDA Training and Career Development Study Section  
2006-2016 Singapore Ministry of Education (MOE), Chairman Physical Sciences  
2007 Breast Cancer Research Program (BCRP)- Concept-Clinical and Experim. Therapeutics  
2007 DOD Congressionally Directed Medical Research Program (CDMRP)  
2007 NIH Study Section (Chairman): Cooperative Research into Therapeutics and Diagnostics for Category B Bacteria, Viruses, and Parasites  
2007 NIH Study Section: Myocardial Ischemia and Metabolism  
2008 NIDA Special Emphasis Panel Meeting for Members of the International Collaborations for HIV and Drug Abuse (R21) Review Committee, April 2  
2008 International Cancer Stem Cell Workshop, Toronto, Canada, April 17-18  
2009 NIH Challenge Grants Panel 9  
2009 NIH Challenge Grant Panel 17  
2009 NIH Pilot-Scale Libraries for High-Throughput Screening  
2010 NIH Special Emphasis Panel on Countermeasures Against Chemical Threats  
2011 NIH Special Emphasis Panel on Countermeasures Against Chemical Threats  
2012-2017 VMD Study Section: Vaccines Against Microbial Diseases  
2010-2014 Singapore Ministry of Education (MOE), Chairman, AcRF Tier 2 EP1 Meeting  
2014 Chairman, 15<sup>th</sup> Tetrahedron Symposium  
2014 Chairman, 15<sup>th</sup> Tetrahedron Asia Symposium  
2016-2017 NIH Special Emphasis Panel on Non-HIV Anti-Infective Therapeutics  
2017 NIH Special Emphasis Meeting on Medications Development for Opioid Use Disorders and Overdose Prevention and Reversal  
2018 NIGMS Special Emphasis Panel to review “Maximizing Investigator’s Research Award” (MIRA) applications for Early Stage Investigators (ESIs).

**Invited Lectures:**

1. Gordon Research Conf. on Proteolytic Enzymes and Their Inhibitors, New Hampshire, June 8, 1988.
2. European Molecular Biology Laboratory, Heidelberg, Germany, August 20, 1988.
3. 196th ACS National Meeting, Los Angeles, CA, September 5, 1988.
4. Lake Tahoe Symposium, Genetic Engineering/Immune System, Lake Tahoe, NV, October 3, 1988.

5. 1988 Pacific Conf. on Chemistry & Spectroscopy, San Francisco, CA, October 26, 1988.
6. 197th ACS National Meeting, Dallas, TX, April 9, 1989.
7. American Society for Microbiology Biotechnological Conference, Orlando, FL, June 22, 1989.
8. American Assc. of Pharmaceutical Scientists, Frontiers of Biotech., Atlanta, GA, October 22, 1989.
9. American Inst. of Chem. Eng., Prod. of Specialty Chemicals, San Francisco, CA, November 5, 1989.
10. University of Tokyo, Department of Agriculture, Tokyo, Japan, January 22, 1990.
11. Tokyo Institute of Technology, Tokyo, Japan, January 23, 1990.
12. Research Institute of Chemical Engineering, Tsukuba, Japan, January 24, 1990.
13. 9th Science and Technology Forum, Tsukuba, Japan, January 24, 1990.
14. Pan-Am. Assc/BioMed Soc, Protein Structure/Function, Novel Exp. Approaches, Brazil, Feb.18, 1990.
15. R.W. Johnson Pharmaceutical Research Institute, San Diego, CA, March 28, 1990.
16. George E. Hewitt Foundation for Medical Research, Irvine, CA, March 30, 1990.
17. Pharmaceutical Society of Japan, Kyushu University, Fukuoka, Japan, May 21, 1990.
18. Kanebo, Ltd., Pharmaceutical Research Center, Osaka, Japan, May 22, 1990.
19. The Green Cross Corporation, Osaka, Japan, May 23, 1990.
20. Unitika Research and Development Center, Kyoto, Japan, May 24, 1990.
21. Protein Engineering Research Institute, Osaka, Japan, May 25, 1990.
22. Bio Japan 90, Protein Engineering-Structure & Function, Osaka, Japan, May 23, 1990.
23. 1990 ASM Conference on Biotechnology, Chicago, IL, June 7, 1990.
24. Ciba Foundation Symposium, London, England, September 1-October 3, 1990.
25. American Institute of Chemical Engineers Meeting, Chicago, IL, November 11, 1990.
26. Annenberg Ctr./Frontiers in Biomedical Research 1991, Rancho Mirage, CA, February 17, 1991.
27. Osaka University, Department of Polymer Science, Osaka, Japan, March 24, 1991.
28. Kanebo, Ltd., Osaka, Japan, March 25, 1991.
29. Tanabe Seiyaku Co., Ltd., Osaka, Japan, March 26, 1991.
30. Sekisui Chemical Co., Osaka, Japan, March 27, 1991.
31. ABC Symposium, Kyoto, Japan, March 28, 1991.
32. Florida Conference on Catalysis, Daytona, FL, April 8, 1991.
33. Sterling Drug Co., Albany, NY, June 7, 1991.
34. New Zealand Inst. Chem./Biochemical Society/Jubilee Conf. Univ. Canterbury, August 26, 1991.
35. International Biotechnology Expo & Scientific Conference, San Francisco, CA, October 6, 1991.
36. University of Arizona, Department of Chemistry, October 28, 1991.
37. The Scripps Research Institute, Structure and Affinity Lecture Series, January 9, 1992.
38. Receptor Laboratories, Inc., Chicago, IL, January 20, 1993.
39. Shanghai Research Centre of Biotechnology, Shanghai, China, June 1, 1993.
40. Toyobo Pharmaceutical Co., Osaka, Japan, June 2, 1993.
41. Inter. Workshop on Chemistry/Biochemistry of Biocatalysis, Kyoto-Fu, Japan, June 3, 1993.
42. Inter. Un. of Pure & Applied Chem., 2nd Inter. Symp. on Bioorganic Chem, Japan, June 6, 1993.
43. Second International Symposium on Bioorganic Chemistry, Fukuoka, Japan, June 6, 1993.
44. Shanghai Institute of Cell Biology, Chinese Academy of Sciences, China, June 14, 1993.
45. Nat. Key Lab. Bioorg/Nat. Prod. Chem/Chinese Academy of Sciences, Shanghai, China, June 15, 1993.
46. Fudan University, Institute of Genetics, Shanghai, China, June 15, 1993.
47. Biochemical Society, Biological Chemistry, Sheffield, England, July 23, 1993.
48. NIH, NIAID, Rocky Mountain Laboratories, Hamilton, MT, August 11, 1993.

49. Monoclonal Antibodies From Combinatorial Libraries, Cold Spring Harbor, November 12, 1993.
50. Ab Eng/ Resch & Applic/Genes Encoding Immunoglobulins Symp., Lake Tahoe, CA, March 8, 1994.
51. University of British Columbia, Vancouver, Canada, Dept. of Chemistry, March 22, 1994.
52. Unilever Research Center, Edgewater, NJ, April 4, 1994.
53. Tokyo Institute of Technology, IMSC, PERI, Kanebo, Sankyo, Japan, April 7, 1994.
54. World Molecular Engineering Network-4th Conf., San Jose de Cabo, Mexico, April 24, 1994.
55. Enzymes/Coenzymes/Metabolic Pathways, Gordon Conference, New Hampshire, July 17, 1994.
56. Chemical Reaction Mechanisms Conference, plenary lecture, Helsinki, Finland, September 27, 1994.
57. University of Illinois, Department of Chemistry, October 26, 1994.
58. Oligonucleotide Selection and Molecular Diversity, Lake Tahoe, CA, October 29, 1994.
59. Time-Machine-Bio, Molecular Evolution Engineering, Tsukuba, Japan, November 7, 1994.
60. Monoclonal Antibodies from Combinatorial Libraries, Cold Spring Harbor, November 17, 1994.
61. Synthesis Symposium, plenary lecture, University of California Irvine, December 10, 1994.
62. Exploiting Molecular Diversity, Small Molecule Libraries for Drug Disc. San Diego, CA January 24, 1995.
63. Exploiting Biological Div. Libraries/Mutations for Research/Drug Dev., San Diego, CA, January 26, 1995.
64. Frontiers of Biomedical Research, Palm Springs, CA, February 19, 1995.
65. 10th Inter. Conf. Monoclonal Antibody Immunoconjugates for Cancer, San Diego, CA, March 10, 1995.
66. Brigham Young University, Department of Chemistry, Provo, UT, March 14, 1995.
67. Colorado State Univ., Dept. of Chemistry, Zeneca Distinguished Lecturer, April 20, 1995.
68. IBC's High Throughput Screening Conference, San Francisco, CA, May 17, 1995.
69. 5th Mtg French-Amer. Chem. Society (PACSV), Bordeaux, France, June 25, 1995.
70. Brandeis University, Department of Chemistry, Massachusetts, September 20, 1995.
71. MIT, Department of Chemistry, Massachusetts, September 21, 1995.
72. UCLA, Department of Chemistry, Los Angeles, CA, October 5, 1995.
73. Abbott Laboratories, Chicago, IL, October 11, 1995.
74. American Chemical Society, Western Regional Meeting, October 18, 1995.
75. Shanghai Research Centre of Biotechnology, China, November 5, 1995.
76. University of Southern California, Department of Chemistry, November 15, 1995.
77. Am. Chem. Soc. SE Reg. Mtg; Chem. Lib., Peptides/Peptidomimetics, Memphis, TN, Nov. 29, 1995.
78. Comb. Library Methods/Basic Research & Drug Disc., AZ Cancer Center, Tucson, AZ, December 2, 1995.
79. Inter. Chem. Cong/P. Basin Societies, Biocatalysis/Org. Synthesis, Honolulu, HA, December 17, 1995.
80. IBC USA Conf. on Mol. Diversity & Combinatorial Chemistry, San Diego, CA, January 24, 1996.
81. Cambridge Healthtech Inst., Solid Phase Synthesis Symposia, San Diego, CA, February 1, 1996.
82. TSRI/R.W. Johnson Pharm. Rsch. Inst. Collab. Resch. Projects Sci. Mtg, La Jolla, CA, Feb 13, 1996.
83. Frontiers in Biomedical Research, Indian Wells, CA, February 18, 1996.
84. Combinatorial Chemistry '96', San Diego, CA, March 21, 1996.
85. 211th ACS National Meeting, New Orleans, LA, March 24, 1996.

86. Drug Abuse Sciences, Inc., San Francisco, CA, April 3, 1996.
87. Bracco Research USA, Inc., Princeton, NJ, April 8, 1996.
88. ROHM & HAAS Co., Spring House, PA, April 10, 1996.
89. Merck Frost Centre for Therapeutic Research, Quebec, Canada, April 22, 1996.
90. World Mol. Engineering Network 6th Meeting/Structural Biology, del Cabo, April 28, 1996.
91. UCSD, Department of Chemistry & Biochemistry, La Jolla, CA, May 6, 1996.
92. NAPP Systems, Inc., San Marcos, CA, May 14, 1996.
93. Drug Abuse Sciences, Inc., San Francisco, CA, May 14, 1996.
94. 1996 National Medicinal Chemistry Symposium, Ann Arbor, MI, June 18, 1996.
95. Antibody-and Protein-based Therapies for Drug Abuse, Puerto Rico, June 22, 1996.
96. IBC USA Conference, Southborough, MA, August 19, 1996.
97. ETH, Eidgenossische Technische Hochschule, Zürich, Switzerland, September 9, 1996.
98. 18th Annual Princeton ACS Fall Org. Chem. Symp., Princeton, NJ, September 26, 1996.
99. 1st French Symposium on Combinatorial Chemistry, Rennes, France, October 29, 1996.
100. Inventor Showcase/Corp. Partnership, UCSD, San Diego, CA, Sheraton, November 12, 1996.
101. Loma Linda University, Loma Linda, CA, November 20, 1996.
102. Procter and Gamble, Cincinnati, OH, December 9, 1996.
103. Winter Conf./Med.& Bioorganic Chem., Steamboat Springs, CO, January 25, 1997.
104. Yale University, New Haven, CT, February 5, 1997.
105. CHI's (Cambridge Health Inst.) Solid Phase Synthesis, Coronado, CA, February 6, 1997.
106. American Assc. for Advancement of Science AMSIE, Seattle, WA, February 13, 1997.
107. Frontiers in Biomedical Research, Indian Wells, CA, Hyatt Grand Champions, February 16, 1997.
108. University of Chicago (Closs Lecture), February 28, 1997.
109. Ciba-Geigy Corp./Novartis, ACS, Summit, NJ, March 24, 1997.
110. University of Kentucky, 23rd Symposium on Chemistry & Molecular Biology, April 8, 1997.
111. University of Helsinki, Finland, April 11, 1997.
112. Lawrence Berkeley Nat. Lab., Structural Bio. Div. Rev. Com., Div. Director, April 20-21, 1997.
113. University of Toronto, Canada, April 25, 1997.
114. 31st European Symposium on Bioorganic Chem.(ESBOC) Gregynog, Wales, May 9, 1997.
115. 15th APS Frontiers of Peptide Science, Nashville, TN, June 14, 1997.
116. Joint Scientific Council, Novartis, Basel, Switzerland, June 26, 1997.
117. Comb. Approaches/Chem/Biology, Churchill Coll., Cambridge Univ., England, July 27, 1997.
118. Org. Reactions & Processes/Gordon Research Conference, New Hampshire, August 3, 1997.
119. Long Range Planning Committee, ACS Division of Medicinal Chemistry, September 8, 1997.
120. Drug Abuse Sciences, Inc., SAB Meeting, September 20, 1997.
121. Northwestern University, Evanston, IL, October 3, 1997.
122. University of Texas at San Antonio, TX, October 16, 1997.
123. Wenner-Gren/Chem/Bio Libraries/Ligand Design, Stockholm, Sweden, November 5, 1997.
124. IBC Conference/Antibody Engineering, San Diego, CA, December 3, 1997.
125. University of Texas, Southwestern Medical Center, January 22, 1998.
126. Lake Tahoe Center, 2nd Inter. Symp. on Mol. Diversity, Lake Tahoe, CA, January 24, 1998.
127. Frontiers of Biomedical Research Symposium, Indian Wells, CA, February 1, 1998.
128. ACS 14th Rocky Mtn. Reg. Mtg, Comb. Chem./Robotics, Tucson, AZ, March 15, 1998.
129. Pharmacia & Upjohn, Inc., Kalamazoo, MI, April 13, 1998.
130. University of Virginia, April 24, 1998.

131. NIDA, Rockville, MD, April 27, 1998.
132. University of California, Berkeley, CA, April 28, 1998.
133. Gilead Sciences, Foster City, CA, April 29, 1998.
134. NIH Review, Washington D.C., June 1, 1998.
135. Università Degli Studi Di Milano, Venice, Italy, June 28, 1998.
136. 12th Intern. Conf. on Organic Synthesis ICOS-12, Venice, Italy, June 28, 1998.
137. 14th Triennial Inter. Conf. in Phosphorus Chem., ICPC, Cincinnati, OH, July 12, 1998.
138. Ligand Pharmaceuticals, San Diego, CA, July 23, 1998.
139. Gordon Conference, New Hampshire, August 16, 1998.
140. ACS National Meeting, Boston, MA, August 23, 1998.
141. The Dupont Company, Wilmington, DE, September 14, 1998.
142. Hoechst Marion Roussel, Inc, September 29, 1998.
143. 3rd Aust. Pept. Conf "From Disc. to Therapeutics", Whitsunday Islands, October 4, 1998.
144. ASTA Medica, Schliersee Symp "Speeding Up Drug Discovery", Germany, October 14, 1998.
145. Exploiting Molecular Diversity, San Diego, CA, February 1, 1999.
146. Frontiers in Biomedical Research, February 7, 1999.
147. NIDA Med. Dev. Special Emphasis Panel (SEP), Washington, D.C., February 23, 1999.
148. University of Alberta, Edmonton, Canada, March 15, 1999.
149. UC Davis, Davis, Sacramento, CA, April 14, 1999.
150. Collegeville, Pennsylvania, Visions Symposium, April 27, 1999.
151. Drug Abuse Sciences, Inc., New York, April 29, 1999.
152. University of Missouri-Columbia, April 30, 1999.
153. UCLA Seminar, Los Angeles, CA, May 5, 1999.
154. Hoechst Marion Roussel, Inc. (HMR) New Jersey, June 13, 1999.
155. Novartis (JSC), Basel, Switzerland, June 15, 1999.
156. ACS National Meeting, New Orleans, LA, August 22, 1999.
157. Cal State Fullerton, Department of Chemistry & Biochemistry, September 9, 1999.
158. Lincei Meeting, Rome, Italy, September 15, 1999.
159. Ohio State Fall Seminar Series, Ohio University, Biochemistry Dept., September 28, 1999.
160. Drug Abuse Sciences, Inc., Scientific Advisory Meeting (SAB), October 20, 1999.
161. Inter. Sym. on Molec. Library Technologies at the Millennium, San Francisco, CA, October 24, 1999.
162. The Role of Natural Products in Drug Discovery, Berlin, Germany, November 2, 1999.
163. Comb. Catalysis & Catalyst Opt. (CombiCat 99 Conf.) Philadelphia, PA, November 17, 1999.
164. Frontiers in Bioorganic Chemistry 2000, Taipei, Taiwan, November 29, 1999.
165. Engineered Catalysis Conference (CHI), New Orleans, LA, December 9, 1999.
166. Knowledge Foundation's Comb. Approaches to New Mat. Disc., San Diego, CA, January 23, 2000.
167. Frontiers in Biomedical Research Symposium, Palm Springs, CA, February 14, 2000.
168. Drug Abuse Sciences, Menlo Park, CA, SAB Meeting, February 17, 2000.
169. Bob Bates Retirement Symposium, Univ. of Arizona, Tucson, AZ, April 15, 2000.
170. Drug Abuse Sciences, Menlo Park, CA, SAB Meeting, April 19, 2000.
171. Aventis, Bridgewater, NJ, April 27 - 30, 2000.
172. Yale University, New Haven, CT, May 5, 2000.
173. Pennie & Edmonds, New York, May 17, 2000.
174. CSC 2000 Symposia "Solids & Separation Science in Synthesis", Canada, May 28, 2000.
175. University of Kansas, National Medicinal Symposium, June 13, 2000.
176. Kimball Union Academy, Gordon Conference, July 9-14, 2000.
177. University of Nottingham, London, England, July 11-13, 2000.
178. 2000 Gordon Research Conference on Green Chemistry, Connecticut, July 15-20, 2000.
179. UCSD 3<sup>rd</sup> Annual Combinatorial Chemistry Symposium, July 21, 2000.
180. University of Oklahoma, October 26, 2000.

181. PacificChem 2000, Hawaii, December 14-19, 2000.
182. Cheemspeed, Basel, Switzerland, January 18, 2001.
183. Combinatorial Approaches for New Materials Discovery, January 28-30, 2001.
184. 4<sup>th</sup> Winter Conference on Medicinal and Bio, Steamboat Springs, CO, January 29-February 2, 2001.
185. Frontiers in Biomedical Research Symposium, Palm Springs, CA, February 14, 2001.
186. University of Alabama, Huntsville, AL, March 16, 2001.
187. University of North Carolina, Charlotte, NC, March 19, 2001.
188. 221<sup>st</sup> ACS National Meeting, San Diego, CA, April 1-5, 2001.
189. Wyeth Ayerst, Pearl River site, Newark, NJ, April 9, 2001.
190. Wyeth Ayerst, Princeton, NJ, April 10, 2001.
191. CRP 1<sup>st</sup> Research Symposium, Sacramento, CA, April 19, 2001.
192. 12<sup>th</sup> Conference on Combinatorial Chemistry, Osaka, Japan, April 24, 2001.
193. Fujisawa Company, Osaka, Japan, April 25, 2001.
194. Takeda Pharmaceutical Company, Osaka, Japan, April 26, 2001.
195. Yale Chemical Biology Symposium, New Haven, CT, May 25, 2001.
196. ArQule, Woburn, MA, June 28, 2001.
197. Aventis, Bridgewater, NJ, November 13, 2001.
198. U.C.L.A., School of Medicine, Pharmacology Seminar, Los Angeles, CA, November 14, 2001.
199. TSRI Faculty Lecture Series, La Jolla, CA, January 16, 2002.
200. University of Minnesota Medicinal Chemistry, College of Pharmacy, Minneapolis, MN, April 2, 2002.
201. Carleton University, 32<sup>nd</sup> Spring Synthesis Symposium, Ottawa, Canada, May 7, 2002.
202. 28<sup>th</sup> National Medicinal Chemistry Symposium, Session Chair, San Diego, CA, June 7, 2002.
203. Polymers and Organic Chemistry Conference 2002, Session Chair, San Diego, CA, July 14-18, 2002.
204. University of Hawaii, HI, August 23, 2002.
205. Shire BioChem Lecture, Universite de Montreal, Montreal, Canada, September 10-11, 2002.
206. Rayson Huang Visiting Lecturer, University of Hong Kong, Hong Kong, China, Sep 30-Oct. 4, 2002.
207. Lecture to Faculty, University Wisconsin Milwaukee (UWM), Milwaukee, WI, October 17, 2002.
208. Milwaukee Section ACS / Marquette Dept. of Chem. Faculty, Milwaukee, WI, October 18, 2002.
209. Viikki Biocenter Lecture, Viikki Drug Discovery Tech. Center, Helsinki, Finland, November 11, 2002.
210. Finnish Chemical Congress, Drug Discovery Session, Helsinki, Finland, November 12, 2002.
211. Dept. of Pharmacy, Viikki Drug Discovery Tech. Center, Helsinki, Finland, November 13, 2002.
212. 23<sup>rd</sup> Graduate Student Symposium, Keynote Speaker, Univ. of Michigan, Detroit, MI, March 29, 2003.
213. Graduate Student Org., Invited Speaker, Univ. of North Carolina, Chapel Hill, NC, April 4, 2003.
214. Dept. of Chemistry, Biomolecular Student Seminar, University of Emory, Atlanta, GA, April 14, 2003.
215. Dept. of Chem., Chem. Society Symp. on Combi. Chem., Univ. of Basel, Switzerland, Sept. 12, 2003.
216. Dept. of Chem. & Biochem., Seminaire hors-ville, Univ. of Bern, Switzerland, Sept. 15-17, 2003.
217. BIOPHEX Conference on Cancer & Addiction, San Jose, CA, September 23, 2003.

218. Royal Netherlands Academy of Arts & Sciences, Amsterdam, November 17-19, 2003.
219. Dept. of Metal-Mediated Synthesis, Utrecht University, Utrecht, Netherlands, November 20, 2003.
220. Dept. of Chemistry, Univ. of Texas at San Antonio, San Antonio, Texas, December 1, 2003.
221. Cambridge Healthtech Institute Conference, Keynote Speaker, La Jolla, CA, February 23, 2004.
222. Prolexys Pharmaceuticals, Salt Lake City, UT, May 20, 2004.
223. Botulinum Neurotoxins & Ricin DMID NIAID Investigators Meeting, Bethesda, MD, October 25, 2004.
224. Interagency Botulism Research Coordinating Committee, Baltimore, WA, October 27, 2004.
226. Dept. of Chemistry, Univ. of Hong Kong, Hong Kong, China, December 20, 2004.
227. Dept. of Biomedical Science, Tufts Univ. School of Veterinary Medicine, N. Grafton, MA, March 1, 2005.
228. Alcohol Research Council, Directors Meeting, Plenary Lecturer, La Jolla, CA, March 15, 2005.
229. Sanofi-Aventis Pharmaceuticals, Bridgewater, NJ, April 20, 2005.
230. Hoffmann La-Roche, Inc., Nutley, NJ, April 21, 2005.
231. Dept. of Medicinal Chemistry, University of Minnesota, Minneapolis, MN, May 4, 2005.
232. Abbott Laboratories, Abbott Park, IL, July 14, 2005.
233. University of Glasgow, Organon Lecturer, Glasgow, United Kingdom, September 1, 2005.
234. Organon Labs, Motherwell, United Kingdom, September, 2, 2005.
235. Dept. of Chemistry, University of Rochester, Rochester, New York, September 21, 2005.
236. National Institute of Health, Bethesda, MD, October 7, 2005.
237. Eisai Co., LLD, Tokyo, Japan, October 17, 2005.
238. Chugai-Roche Pharmaceutical Co., Ltd., Kajiwarra, Kamakura-city, Japan, October 18, 2005.
239. Osaka University, Human Life Science Forum, Osaka, Japan, October 19, 2005.
240. Shionogi Pharmaceutical Co., Osaka-city, Japan, October 20, 2005.
241. 2<sup>nd</sup> Annual Immune Epitope Database & Discovery Workshop, Bethesda, Maryland, November 3, 2005.
242. McGill University, Dept. of Chemistry, Montreal, Quebec, Canada, November 8, 2005.
243. Merck Frosst Centre for Therapeutic Res., Montreal, Quebec, Canada, November 9, 2005.
244. Plenary Lecture, Singapore Intl. Chemical Conference, Singapore, December 8, 2005.
245. Chair of 2 meetings, Pacificchem 2005, Oahu, Hawaii, December 15-19, 2005.
246. 2<sup>nd</sup> Botulism Small Molecule Drug Discovery Meeting, Boston, MA, March 15, 2006.
247. Alnylam Pharmaceuticals Lecture, Cambridge, MA, March 16, 2006.
248. Homeland Security Meeting, Frederick, Maryland, March, 17, 2006.
249. EISAI London Research Labs, LTD, London, UK, May 30, 2006.
250. Army Medical Research Inst. Of Chem. Defense, Hunt Valley, MD, June 7, 2006.
251. Antibody Engineering Conference, Kagoshima, Japan, June 16, 2006.
252. 9<sup>th</sup> Annual Medchem / Combichem Symposium, San Diego, California, July 21, 2006.
253. Korea Institute for Chemical Technology Symposium, Seoul, Korea, August 25, 2006.
254. Amylin Pharmaceuticals, Inc. San Diego, California, September 29, 2006.
255. Pathogenesis Affinity Group Retreat, Rancho Santa Fe, California, October 11, 2006.
256. Institute of Molecular & Cell Biology, Proteos, Singapore, October 25, 2006.
257. Institute of Bioengineering & Nanotechnology, The Nanos, Singapore, October 26, 2006.
258. The National University of Singapore, Singapore, October 27, 2006.
259. XVth Inter American Conf. on Onchocerciasis, Antigua, Guatemala, November 8, 2006.
260. Botulism Therapy, USAMRIID, Fort Detrich, Maryland, January 12, 2007.
261. Substance Abuse Continuing Education Lecture, California Bar Assoc., January 24, 2007.
262. University of Illinois at Urbana-Champaign, Champaign, Illinois, March 15, 2007.
263. Merck & Co., Inc. Medicinal Chemistry Seminar, Rahway, New Jersey, April 18, 2007.

264. 3<sup>rd</sup> Botulism Small Molecule Drug Development Coordination Meeting, Tufts Cummings School of Veterinary Medicine, Boston, Massachusetts, May 5, 2007.
265. Los Alamos National Laboratories, Bioscience Seminar Speaker, Los Alamos, New Mexico, May 31, 2007.
266. Expert Panel for Ministry of Education, Singapore, June 25-26, 2007.
267. Merial Limited, Duluth, Georgia, July 20, 2007.
268. GlaxoSmithLine Biologicals, Brussels, Belgium, August 20, 2007.
269. Strategies for Engineered Negligible Senescence (SENS) Conference, Queens College, Cambridge England, September 7, 2007.
270. BioJapan 2007 World Business Forum, Yokohama, Japan, September 21, 2007.
271. 57<sup>th</sup> Annual Obesity & Associated Conditions Symposium, Las Vegas, Nevada, September 29, 2007.
272. TRDRP Biennial Conference on Nicotine Vaccines, Sacramento, Calif., October 9, 2007.
273. University of Nebraska, Colloquia Speaker, Lincoln, Nebraska, October 12, 2007.
274. Interagency Botulism Research Coordinating Committee (IBRCC) Meeting, Monterey, California, October 15, 2007.
275. Immune Epitope Database and Discovery Contracts Annual Meeting, La Jolla, California, November 15, 2007.
276. The Chinese University of Hong Kong, Hong Kong, China, April 22, 2008.
277. The City University of Hong Kong, Hong Kong, China, April 23, 2008.
278. The University of Hong Kong, Colloquium Lecture, Hong Kong, China, April 24, 2008.
279. Public Lecture (High School Students), Hong Kong, China, April 25, 2008.
280. The 15<sup>th</sup> Symposium of Chemistry, Keynote Lecture, Hong Kong, China, April 26, 2008.
281. 4<sup>th</sup> Botulism Small Molecule Drug development Coordination Meeting, Tufts University, North Grafton, Massachusetts, May 5, 2008.
282. Pfizer joint Scientific Meeting, Sandwich, England. May 23, 2008.
283. Toxins 2008 Conference, Baveno, Lake Maggiore, Italy, June 13, 2008.
284. Waseda University Department of Chemistry, Tokyo, Japan, July 3, 2008.
285. Mitsubishi-Tanabe, Tokyo, Japan, July 3, 2008.
286. "Practical Chemical Wisdom" Intl. Symposium, Waseda Univ., Tokyo, Japan, July 4, 2008.
287. Scripps Japan Olympic Year Symposium, Waseda Univ., Tokyo, Japan, July 5, 2008.
288. ACS DOC Symposium on Combinatorial Catalysis and Screening, Philadelphia, Pennsylvania, August 20, 2008.
289. 3<sup>rd</sup> International Conference on Paraoxonases, UCLA, Los Angeles, California, September 9, 2008.
290. Interagency Botulism Research Coordinating Committee (IBRCC), Philadelphia, Pennsylvania, September 17, 2008.
291. IBC's 19<sup>th</sup> Annual Antibody Engineering and Immunotherapeutics Conference, San Diego, California, December 10, 2008.
292. NIH National Cancer Institute, Bethesda, Maryland, January 5, 2009.
293. Frontiers in Biomedical Research Symposium, Indian Wells, California, February 17, 2009.
294. 7<sup>th</sup> ASM Bio-defense and Emerging Diseases Research Meeting, Baltimore, Maryland, February 24, 2009.
295. Immune Epitope Database and Discovery Contracts Annual Meeting, Silver Spring, Maryland, March 10, 2009.
296. Analytical Methods for Distributed Detection Networks Conference, Univ. of Texas, Austin, Texas, March 16, 2009.
297. New York University, New York, New York, March 30, 2009.
298. Frontiers in Science Lecture, California State University, Fullerton, April 15, 2009.
299. 17<sup>th</sup> Annual MSGSA Symposium, Calgary, Alberta – Canada, May 7, 2009.
300. University of Utah, College of Pharmacy, Salt lake City, Utah, May 21, 2009.
301. 10<sup>th</sup> Tetrahedron Symposium/Tetrahedron Letters 50<sup>th</sup> Anniversary, Paris, France, June 25, 2009.

302. Ben-Gurion University of the Negev, Be'er Sheva, Israel, June 30, 2009.
303. Eli Lilly Distinguished Lecturer for 2009, Organic Division at Colorado State University, Fort Collins, Colorado, July 30-31, 2009.
304. Session Chair for Division of Inorganic Chemistry, 238<sup>th</sup> ACS National Meeting, Washington, D.C., August 18, 2009.
305. American Chemical Society 238<sup>th</sup> National Meeting Lecture, Washington, D.C., August 18, 2009.
306. New England Biolabs, Ipswich, Massachusetts, September 24, 2009.
307. The Interagency Botulism Research Coordinating Committee (IBRCC) 46<sup>th</sup> Annual Meeting, Alexandria, Virginia, October 20, 2009.
308. University of South Carolina, Columbia, South Carolina, November 9, 2009.
309. Medical University of South Carolina, Charleston, South Carolina, November 10, 2009.
310. 48<sup>th</sup> Annual Meeting of American College of Neuropsychopharmacology, Hollywood, Florida, December 9, 2009.
311. University of Utah, Salt Lake City, Utah, February 8, 2010.
312. Scripps Florida, Palm Beach, Florida, April 14, 2010.
313. 2010 Harold A. Iddles Lecturer, University of New Hampshire, Durham, New Hampshire, April 27, 2010.
314. Colorado State University, Dept. of Chemistry, Fort Collins, Colorado, August 5, 2010.
315. Novartis Vaccines & Diagnostics Research Center, Siena, Italy, September 2, 2010.
316. Case Western Reserve University, Cleveland, Ohio, September 16, 2010.
317. University of Kansas, Dept. of Medicinal Chemistry, Lawrence, Kansas, October 1, 2010.
318. University of Nebraska, Dept. of Pathology/Microbiology, McFadden Lecturer, Omaha, Nebraska, October 29, 2010.
319. 47<sup>th</sup> Annual Interagency Botulism research Coordinating Committee Meeting, Atlanta, Georgia, November 3, 2010.
320. PacificChem 2010 Conference, Honolulu, Hawaii, December 15, 2010.
321. Sanford Center, Sioux Falls, South Dakota, February 9, 2011.
322. Ohio State Biochemistry Program, Columbus, Ohio, March 8, 2011.
323. Colorado State University, Dept. of Chemistry, Fort Collins, Colorado, August 4, 2011.
324. CONNECT Event, AMN Healthcare, San Diego, California, November 22, 2011.
325. Academia Sinica, Taipei, Taiwan, December 13, 2011.
326. St. Jude Children's Research Hospital, Memphis, Tennessee, January 12, 2012.
327. Bayer Pharma AG, Berlin, Germany, January 18, 2012.
328. Pfizer, Cambridge, Massachusetts, January 31, 2012.
329. University of Texas Medical Branch, Sealy Center for Vaccine Development, Cancer Center, Center for Addiction Research and Mitchell Center for Neurodegenerative Diseases, Galveston, Texas, February 8, 2012.
330. New York Academy of Sciences, New York, New York, February 9, 2012.
331. 2012 National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCChE) West Regional Meeting (at TSRI), La Jolla, California, March 24, 2012.
332. University of Texas at San Antonio Science Center, San Antonio, Texas, March 27, 2012.
333. Poster presentation: Department of Public Health, California Tobacco Control Program (CTCP) and the Tobacco-Related Disease Research Program (TRDRP) at the University of California, Sacramento, California, April 10, 2012.
334. 10<sup>th</sup> Raymond N. Castle Student Research Conference Plenary Lecture, University of Southern Florida, Jacksonville, Florida, April 21, 2012.
335. TEDxEast, New York, New York, May 11, 2012.
336. 13<sup>th</sup> Annual NIH Chemical-Biology Interface Training Grant Symposium, University of Minnesota, Minneapolis, Minnesota, May 17, 2012.
337. 52<sup>nd</sup> Annual NCDEU Panel and Workshop, Phoenix, Arizona, May 31, 2012.
338. 49<sup>th</sup> Interagency Botulism Research Coordinating Committee (IBRCC), Baltimore, Maryland, September 5, 2012.

339. Skaggs Biomedical Research Symposium, Aurora, Colorado, August 27, 2012.
340. UCSD Drug Discovery Institute Seminar, San Diego, California, November 5, 2012.
341. 13<sup>th</sup> Tetrahedron Symposium – Asian Edition, Taipei, Taiwan, November 30, 2012.
342. TOXINS 2012: International Neurotoxin Association, Miami Beach, Florida, December 8, 2012.
343. Purdue University, Indianapolis, Indiana, January 28, 2013.
344. 2013 American Society for Microbiology/Dept. of Agriculture Biodefense and Emerging Diseases Research Meeting, Washington, D.C., February 25, 2013.
345. California State University-Long Beach, Long Beach, California, April 24, 2013.
346. Association for Research in Vision & Ophthalmology (ARVO) 2013 Meeting, Seattle, Washington, May 6, 2013.
347. NIDA Biologics Meeting – Division of Pharmacologies and Medical Consequences of Drug Abuse (DPMCD), Rockville, Maryland, September 12, 2013.
348. Boston University College of Arts and Sciences, Department of Chemistry, Boston, Massachusetts, September 30, 2013.
349. University of Wyoming, Laramie, Wyoming, October 10, 2013.
350. 50<sup>th</sup> Annual Interagency Botulism Research Coordinating Committee (IBRCC), Baltimore, Maryland, October 21, 2013.
351. Pittcon 2014, Technical Program, Chicago, Illinois, March 3, 2014.
352. American Society of Gene & Cell Therapy 17<sup>th</sup> Annual Meeting, Washington, D.C., May 21, 2014.
353. New York World Science Festival, New York, New York, May 30-31, 2014.
354. 2014 L.S. Skaggs Biomedical Research Symposium, Missoula, Montana, August 15, 2014.
355. University of Michigan, College of Pharmacy, September 25, 2014.
356. Temple University, Philadelphia, Pennsylvania, March 19, 2015.
357. Tsinghua University, Beijing, China, July 1, 2015.
358. Peking University, School of Pharmaceutical Sciences, Beijing, China, July 2, 2015.
359. Xingda Lecturer, Peking University, College of Chemistry, Beijing, China, July 3, 2015.
360. Distinguished Seminar Lectureship Speaker, Department of Medicinal Chemistry, University of Minnesota, Minneapolis, Minnesota, September 22, 2015.
361. PacificChem 2015, Honolulu, Hawaii, December 19-20, 2015.
362. Winter Conference on Brain Research, Breckenridge, Colorado, January 28, 2016.
363. 251<sup>st</sup> ACS National Meeting & Exposition – Medicinal Chemistry Symposium, San Diego, California, March 14, 2016.
364. North Carolina State University, Department of Chemistry, Raleigh, North Carolina, March 18, 2016.
365. 2016 American Psychiatric Association Meeting, Atlanta, Georgia, May 15, 2016.
366. 2016 Collaborative + Classy Awards Event, Boston, Massachusetts, June 15, 2016.
367. 2016 Skaggs Biomedical Research Symposium, Pocatello, Idaho, August 4, 2016.
368. 20<sup>th</sup> Anniversary Skaggs Symposium, The Scripps Research Institute, La Jolla, California, September 19, 2016.
369. The University of Kansas, Department of Pharmaceutical Chemistry, Lawrence, Kansas, September 27, 2016.
370. Infectious Diseases and Microbiology Integrated Special Emphasis Panel (IDM-X10), Washington, D.C., November 14, 2016.
371. Nanyang Technological University (NTU), Singapore, January 12, 2017.
372. National University of Singapore (NUS), Singapore, January 13, 2017.
373. 253<sup>rd</sup> ACS National Meeting, Alfred Bader Award presentation, San Francisco, California, April 4, 2017.
374. Clinton Foundaton, Health Matters Annual Activation Summit, Little Rock, Arkansas, April 10, 2017.
375. National Foundation for Infectious Diseases (NFID) 20<sup>th</sup> Annual Conference on Vaccine Research (ACVR), Bethesda, Maryland, April 24, 2017.
376. 253<sup>rd</sup> American Chemical Society (ACS) National Meeting, Alfred R. Bader Award

- lecture in Bioinorganic and Biorganic Chemistry, San Francisco, California, April 4, 2017.
377. 254<sup>th</sup> American Chemical Society (ACS) National Meeting, Alfred R. Bader Award lecture in Bioinorganic and Biorganic Chemistry, Washington, D.C., August 23, 2017.
  378. Idaho state University, College of Pharmacy, 2017 Chu Lectureship Award lecture, Meridian, Idaho, October 20, 2017.
  379. 2017 Interagency Botulism Research Coordinating Committee (IBRCC) Meeting, San Francisco, California, October 24, 2017.
  380. 2017 TSRI Immunology & Microbiology Faculty Retreat, Rancho Valencia, California, November 6, 2017.
  381. Defense Threat Reduction Agency (DTRA), Fort Belvoir, Virginia, March 27, 2018.
  382. College on Problems of Drug Dependence (CPDD), San Diego, California, June 13, 2018.
  383. Moving Targets Symposium, USC Student Chapter of American Association of Pharmaceutical Scientists (AAPS), Los Angeles, California, August 17, 2018.
  384. San Diego State University, Dept. of Chemistry and Biochemistry Seminar, San Diego, California, November 30, 2018.
  385. Morehouse School of Medicine, Frontiers in Addiction Research and Pregnancy (FrARP) Meeting, Atlanta, Georgia, October 18, 2018.
  386. National Institutes of Health (NIAID), lecture to support development of vaccines for the treatment of opioid abuse, Washington, D.C., October 23, 2018.
  387. American College of Neuropharmacology (ACNP), Special Panel addressing the Opioid Crisis, Hollywood, Florida, December 13, 2018.
  388. TOXINS 2019 Conference, Copenhagen, Denmark, January 18, 2019.
  389. Wolk Lecturer, Colgate University, Hamilton, New York, March 26, 2019.

## **Bibliography:**

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