

CURRICULUM VITAE

Name: **Suk Bin Kong**, Ph.D. Professor of Chemistry

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Citizenship: U.S.A.

Degrees:

1983-1985: **Ph.D., Organic Chemistry**, Department of Chemistry, **University of Florida, Gainesville, Florida**. Dissertation: Studies on a sesquiterpenoid natural product, Gorgonene, extracted from ocean algae and its synthetic methodology.

1980-1983: **MS, Organic Chemistry**, Department of Chemistry, **University of Florida, Gainesville, Florida**. Chemical synthesis. Insect pheromone and attractant.

1976-1978: **MA, Department of Entomology & Nematology**, Institute of Food and Agricultural Sciences (IFAS), **University of Florida, Gainesville, Florida**.

1970: BS, **Agri- Biology** (Plant Pathology, Entomology & Nematology), **Seoul National University, Korea**

Experience:

2009-2010: **U.S. Fulbright Scholar** to Eastern Africa. Makerere University and Gulu University, Uganda. Taught Chemical instrumentation and Organic Spectroscopy. Professor of Chemistry. Research subjects: Anti malaria drug, pesticide and insect & tick repellents.

Summer 2006: U.S. Department of Agriculture(USDA), **Bio-Diesel** production from plant oils. Fat & Oil Research Laboratory, **Eastern Regional Research Center (ERRC)**. Wyndmoor, Pennsylvania.

Summer 2005: U.S. Department of Agriculture(USDA), **Science Research Fellow, National Center for Agricultural Utilization Research (NCAUR)**. Isolation of Saponins and Isoflavins in soybeans by Liquid Chromatography.

2003-2004: **U.S.Fulbright Scholar** to Africa teaching engineering students at Kigali Institute of Scientific Technology(KIST). Research with Pesticide/medicinal chemistry & Pharmacognosy, and Drinking Water quality control in Rwanda. 9 months assignment.

2002-2007: **Fulbright Senior Specialist Candidate** for Environmental Science/ Toxic chemical waste analysis and chemistry (2002-2007).

5/01-7/01: **NASA John F. Kennedy Space Center (KSC) Summer Research Faculty**. Analytical laboratory, GC-Mass analysis of chemicals for life support system in space. Volatile organic compounds from plants.

5/98-8/98: **U.S. Air Force Summer Research Faculty**. GC-Mass analysis and synthesis of amphetamine drug derivatives and detection of metabolites. Clinical

Investigation Directorate (CID), Wilford Hall Medical Center, Lackland AFB, San Antonio, Texas.

5/96-12/97: **U.S. Air Force Summer Research Faculty**. Assigned to Analytical Services Division, Armstrong Laboratory, Brooks Air Force Base, San Antonio, Texas 78235. Research Project: Jet propulsion fuel and chemical waste contamination in the air and groundwater. Degradation studies. GC/Mass spec analysis.

8/90 - 8/95: **Assistant professor**, Department of Chemistry, **Northeast Louisiana University, Monroe, La** 71209. Teaching undergraduate and graduate courses in Organic Chemistry, Chemical Synthesis, Chemistry for Nursing and Allied health science majors, and pharmacy. Researches on carcinogenic hydrocarbons, synthesis and metabolism studies of medicinal drug and pesticides.

8/89-8/90: **Adjunct Professor** in Organic Chemistry/Spectroscopy, Johnson & Johnson Baby Product **Research Fellow** on UV absorbers as sunscreen agents. Carcinogenic nitrosoamine studies with NIH, Dept. of Chemistry, **The American University, Washington, D.C.** 20016.

11/88-8/89: **Post-doctoral training fellow/Research Associate**. Studies of spermatocide and fungicide analogues for mail birth control, Dept. of Medicinal Chemistry & Pharmacognosy, **College of Pharmacy, University of Illinois, Chicago Circle, Ill** 60680.

1/88-10/88: **Visiting Scholar**, Heterocyclic chemistry, DNA binding studies. Synthesis of pyridine derivatives. Department of Chemistry, Georgia State University, Atlanta, Ga 30303

1/86-12/87: **Senior Scientist, Korea Institute of Chemical Technology**. Medicinal drug and pesticide synthesis, evaluation and screening. Chemical & pharmaceutical industry advisor. Trained for pesticide screening and evaluation procedures at FMC Agrochemicals, Princeton, New Jersey.

7/74-8/75: Chosen Brewery Company agricultural specialist; production of hops and disease control.

71-73: Drafted to South Korean Military service. Mandatory service including 1 year tour in Vietnam. Medical corpsman and English interpreter.

70-74 (Except the period of enlisted to the military service): Junior Researcher, Horticulture and Alpine Experimental Station, Office of Rural Development, Ministry of Agriculture; Plant protection, disease control, South Korea.

Publications:

1. Ir(I)-catalysed enantioselective decarboxylative allylic etherification: a general method for the asymmetric synthesis of aryl allyl ethers. *Organic Letters*, 15(3), pp 512-515. DOI: 10.1021/ol3033237. American Chemical Society. (2013).
2. Concise asymmetric synthesis of orthogonally protected syn-anti-1,3-aminoalcohols. *Organic Letters*, 15(3), pp 554-557. DOI: 10.1021/ol303371u. American Chemical Society. (2013).
3. Cross-methathesis/Iridium(I)-catalyzed allylic etherification strategy: (Iterative) catalytic asymmetric synthesis of syn- and anti-1,2-diols. *Angewandte Chemie International Edition*. DOI:10.1002/anie.2012209112. (2013).

4. Air-Stable bifunctional allylation reagents for the asymmetric synthesis of differentiated syn- and anti-1,3-diols. *Chemistry European Journal*. Doi:10.1002/chem..201204148. (2013)
5. Enantioenriched Bifunctional Crotylsilanes for the Asymmetric Synthesis of Orthogonally Protected 2-Methyl-1, 3-diols, D Kim, JS Lee, L Lozano, SB Kong, H Han - *Organic letters*, 15(19), pp 5142-5145 (2013) - ACS Publications
6. New peptidal neuroprotectants against NMDA neurotoxicity: syntheses and biological evaluations of complestatin's analogs. H. J. Park, Y. G. Shin, Y. J. Kim, B. J. Gwag, E.C. Park, H. J. Gwan, S. B. Kong and S. H. Yoon, *Lett. of Drug Design & Synthesis* (2008).
7. Complete Quantification of Group A and Group B Soyasaponin in Soybeans. M. A. Berhow, S. B. Kong, D. Vermillion, and S. Duval, USDA, ARS, National Center for Agricultural Utilization Research, Peoria, Illinois 61604, *J. Agri. Food. Chem.*, 54(6), 2035-2044. (2006)
8. A general asymmetric route for the synthesis of the alexine and australine family of pyrrolizidine alkaloids. The first asymmetric synthesis of 1,2-diepi-alexine and 1,2,7-triepi-australine. D.C. Chikkanna, O.V. Singh, S.B. Kong and H. Han, *Tetrahedron Letters* 46(2005) 8865-8868.
9. Harvey Schwertner and S. B. Kong, "Determination of modafinil in plasma and urine by reversed phase high-performance liquid Chromatography, *Journal of Pharmaceutical and Biomedical Analysis* (Elsevier), 37, 475-479 (2005).
8. Analysis of Volatile Chemicals in a Controlled Environment: Ethylene gas measurement studies on radish in space. Life Support System Research, NASA Kennedy Space Center and University of Central Florida(2001). NASA Grant No. NAG10-229. Editors; E. R. Hosler, Department of Mechanical, Materials and Aerospace Engineering and C. Black, NASA/KSC.
9. N. M. Roscher, M. K. O. Lindemann, S. B. Kong, C. G. Cho, and P. Jiang, "The photodecomposition of several compounds commonly used as sunscreen agents." *J. Photochemistry*, 80, 417(1994).
10. S. M. Abdelaal, S. B. Kong and L. Bauer, "Synthesis of 1- (3-methyl-2(3H)-benzazolon-5- or 6-yl)-4-(4-(cis-2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl)methyleneoxyphenyl)piperazine." *J. Heterocyclic Chem.* Vol. 29, 1069-1076(1992). Published on line (2009).
11. W. D. Wilson, H. J. Barton, F. A. Tanious, S. B. Kong, and L. Streckowski, "The Interaction with DNA of Unfused Aromatic Systems Containing Terminal Piperazine Substituents: Intercalation and Groove Binding." No. 35, 227-243, *Biophysical Chemistry* (1990).
12. S. B. Kong, M. T. Cegla, K. B. Harden, and L. Streckowski, "A Facile Synthesis of 2-Aryl- and 2-Heteroaryl-Substituted 4-Aminoquinolines." *Heterocycles*, 29 (3), (1989).
13. L. Streckowski, M. T. Cegla, D. B. Harden and S. B. Kong, "A Route to Sterically Crowded Benzophenone N-Aryl Imines." *J. Org. Chem.* 54 (10), 2464 (1989).
14. L. Streckowski, M. T. Cegla, S. B. Kong, and D. Harden, "Synthesis of 2,2,4-Trisubstituted 1,2-Dyhydroquinazolines." *J. Heterocyclic Chem.*, 26, 923(1989). Published on line (2009).

15. L. Strekowski, S. B. Kong and M. A. Battiste, "Intermolecular Diels-Alder Reactions of 3-vinylcyclohex-2-en-1-ol and Silyl Ether Derivatives." J. Org. Chem., 53, 901 (1988).

Technical Papers:

1. Studies of diet pills, amphetamine derivatives: synthesis and analysis of metabolites. US Air Force Research Laboratory (1998).
2. Jet petroleum analysis, detection of carcinogenic polyaromatic hydrocarbons in fuel. US Air Force Research Laboratory (1996).
3. Synthesis of New Sulfonylurea Series as Herbicide, Annual Report on the Development of New Pesticides, p139, KRICT(1986).
4. Synthesis of Ethoxyquin, an antioxidant. Bulletin No. 11188, Technical Support for Small and Medium Industries, KRICT(1986).
5. Synthesis of Sulfamethazine Derivatives, Bulletin No.03111, Technical Support for Small and Medium Industries, KRICT(1986).
6. Synthesis of Furazolidone, Bulletin No. 11188, Technical Support for Small and Medium Industries, KRICT(1987).
7. Synthesis of n-hexadecylsulfonyl chloride, Bulletin No.08972, Technical support for Small and Medium Industries, KRICT(1987).
8. Synthesis of (+)-trans-dimethyl-1-(3-methoxyphenyl)cyclohexanol HCl, Tramadol. Annual Report of 1987, Korea Research Institute of Chemical Technology (KRICT) (1987).

Presentations and Abstracts:

1. H. Schwertner, S. B. Kong and E. Richter, Clinical Investigation Directorate, Wilford Hall Medical Center, U.S Air Force and University of the Incarnate Word, "New method extracting salicylic acid from plasma and for its analysis by HPLC". Medicinal Chemistry Division, American Chemical Society National Conference, San Diego, CA (2005).
2. H. Schwertner and S.B. Kong, "Determination of Modafinil in plasma and urine by reversed phase LC". Medicinal Chemistry Division, American Chemical Society (ACS) National Conference, San Diego, CA (2005).
3. H. Schwertner and S. B. Kong, "Analysis of Gingerol derivatives in ginger rhizome and in plasman samples by LC", Agriculture and Food Chemistry Division, American Chemical Society (ACS) National Conference, San Diego, CA (2005).
4. B. G. McBurnett, J. Mosso, C. Lopez, S. B. Kong and G. Lee, University of the Incarnate Word and Environmental Science Laboratory, U.S. Air Force, "Analysis of the volatile components of tea after sequential infusions", Chemical Education Division, American Chemical Society (ACS) National Conference, San Diego, CA (2005).
5. B. G. McBurnett, J. Mosso, C. Lopez, S. B. Kong and G. Lee, "Volatile components of the leaves of Piper auritum", Chemical Education Division, American Chemical Society (ACS) National Conference, San Diego, CA (2005).

6. B. G. McBurnett, J. Mosso, C. Lopez, S. B. Kong and G. Lee, "Analysis of the volatile components of Piper auritum used in traditional Hispanic cuisine", Chemical Education Division, American Chemical Society (ACS) National Conference, San Diego, CA (2005).

7. S. B. Kong, Chemical Analysis by Gas Chromatography-Mass Spectrometer, Rwanda Bureau of Standard, Water Quality Control and food analysis. Kigali, Rwanda. (2004).

8. S. B. Kong, A presentation on Methods and Tools for science education for science educators. Fulbright lecturer at KIST, American Embassy in Kigali, Rwanda, Africa (2003).

9. H. Schwertner and S. B. Kong, Analysis of Modafinil in plasma and urine by HPLC, Abstract No. 292, Medicinal Chemistry, American Chemical Society National Conference, New Orleans (2003)

10. H. Schwertner, S. Valtier and S. B. Kong, Analysis of gingerol derivatives in physiological fluids. Abstract No. 47, Agricultural & Food Chemistry, American Chemical Society National Conference, New Orleans (2003)

11. H. Schwertner and S. B. Kong, A new method for extracting salicylic acid from plasma and for its analysis by HPLC. American Chemical Society Southwest Conference (2002).

12. H. Schwertner, S. Valtier and S. B. Kong, HPLC analysis of gingerol, shogaol and gingediol in Ginger Rhizome powder and in plasma samples. American Chemical Society Southwest conference (2002).

13. S. B. Kong and R. Wheeler, Analysis of volatile organic compounds in a controlled environment: Ethylene gas measurement studies. John F. Kennedy Space Center, NASA report/Univ. of Central Florida, Orlando, Florida (2001)

14. S. B. Kong, R. Marines and B. Munson, Aromatic Hydrocarbon components in petroleum, American Chemical Society (ACS) Southeast & Southwest Regional Meeting (2000).

15. C. Gleason and S. B. Kong, Studies on Artemia at Salton Sea. March 9-12, Texas Academy of Science, Texas A&M Kingsville (2000).

16. C. Gleason and S. B. Kong, Salt concentration and hatching rate studies, March 9-12, Texas Academy of Science, Texas A&M Kingsville (2000).

17. S. B. Kong, Aromatic Hydrocarbons in Jet fuels. Texas Academy of Science, Texas Lutheran Univ., Sequin, Texas (1999).

18. Jet petroleum analysis. Analytical Chemistry and Spectroscopy NationalPittsburgh Conference, Orlando, Florida (1999)

19. S. B. Kong, Carcinogenic hydrocarbon analysis of petroleum, March 4-6, Texas Academy of Science, Seguin, Texas (1999).

20. S. Valtier, S. B. Kong and J. Cody, " A procedure for the identification and quantitation of Clobezorex, Society of Forensic Toxicologist International Conference, October 5-9, Albuquerque, New Mexico (1998).

21. S. B. Kong and C. Hernandez, " Mortality test of carbamate pesticide analogues in the aquatic environment", Fourth Annual Student Research Conference, Texas A&M, Canyon, Texas (1997).

22. S. B. Kong and S. Schreiber, "Petroleum contamination effect on the aquatic environment. Fourth Annual Student Research Conference, Texas A&M, Canyon, Texas (1997).

23. S. B. Kong, G. H. Lee, A. Richardson and K. Locke, "GC/Mass spec studies on the decomposition of the chemical waste", Texas Academy of Science (1997).

24. S. B. Kong, "Biologically Active Heterocyclic Chemicals", University of Texas Faculty Seminar Series, San Antonio, Texas (1996).

25. S. B. Kong, "Chemicals used as pesticide and medicinal drugs. QSAR studies on cancer", Faculty Seminar, University of the Incarnate Word, San Antonio, Texas (1996).

26. S. B. Kong, "Petroleum hydrocarbons", Faculty Seminar, University of the Incarnate Word, San Antonio, Texas (1996).

27. S. B. Kong, G. H. Lee, A. Richardson, R. Weddell, K. Locke and D. Gould, "Aromatic hydrocarbons in JP-8, Jet-A and Diesel" National Air Pollution Convention, USAF, San Antonio, Texas (1996).

28. S. B. Kong, G. H. Lee, A. Richardson, and K. Locke, "Studies on the chemical components in petroleum", American Chemical Society Southwest Conference, Houston, Texas (1996).

Courses taught:

General Organic Chemistry Courses (Mechanism, bonding and spectra and synthesis) for undergraduate and pre-pharmacy students.

Interpretation of Spectra (Organic Spectroscopy: GC/Mass, NMR, IR, UV and Elemental Analysis). Graduate level organic chemistry.

Natural Product Chemistry, Nursing chemistry.

Biologically active chemicals: Medicinal drugs and Pesticides.

Insect Biochemistry, General Organic and Biochemistry

Environmental Chemistry and Toxicology

Field of Specialization:

1. Organic Spectroscopy. GC/MS, FT-NMR, IR, UV. GC, HPLC and AOAC analysis. Volatile organic compounds from plants.

2. Synthesis, evaluation & screening of medicinal drugs and pesticide.

3. Biologically active natural products studies.

4. Petroleum analysis and chemical waste disposal studies.

Professional Affiliations:

American Chemical Society: Organic Chemistry Division, Medicinal Chemistry Division, Agrochemical Division, Agricultural & Food Division, American Nematological Society,

National Defense Industrial Association (NDIA)

Participations in workshops, seminars, or symposia :

Welch Foundation Research Conference (2012), Houston, TX.

USDA Hispanic Serving Institution Program and Grant Writing Workshop,
Washington DC and Houston, TX (2011)

2. Spanish Language training, Title V program, U of the Incarnate Word(2005). 3. NIH
Grant writing workshop, U. of Kentucky, Lexington, KY (2000). 4. Shimadzu
Instrumentation Workshop for GC-Mass II, Columbia, Maryland. 5. Workshop for
Hispanic Minority Science Education, San Jose, California (1998).

Honors:

Fulbright Scholar Traditional Program, Teaching/Research Award(2003-2004).
U.S. State Department, Rwanda, Eastern Africa.

Fulbright Scholar Traditional Program, Teaching/Research Award(2009-2010).
U.S. State Department, Republic of Uganda, Eastern Africa.