Curriculum Vitae
Charles Jeffrey Smith

Personal:

Current Positions: Associate Professor
Department of Radiology
University of Missouri-Columbia School of Medicine
One Hospital Drive
Columbia, Missouri 65211

Research Health Scientist
Research Service Division Room A005
Harry S. Truman Memorial Veterans Hospital/Research Core
800 Hospital Drive
Columbia, MO 65201-5297
(573) 814-6000 ext. 53683

E-mail Address: smithcj@health.missouri.edu

Date of Birth: April 24, 1969

Place of Birth: Independence, Missouri

Citizenship: United States of America

Marital Status: Married to Monica Kay Meyer, October 29th, 2000

Children: Caitlyn and Morgyn Smith

Education:

Ph.D. in Chemistry: May, 1997
University of Missouri-Columbia
Columbia, Missouri, 65211
Dissertation Advisors: Kattesh V. Katti and Richard Thompson
Dissertation Title: "Transition Metal Complexes of Novel, Polydentate, Water-Soluble, Phosphine Ligands"

B.S. in Chemistry: May, 1992
Missouri State University
Springfield, Missouri, 65897
Advisors: Robert Ernst and Tamara Jahnke

Professional Experience:

2010-present	Research Health Scientist (Grade 14, Step 4), United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans Hospital, Columbia, MO 65201
2009-present	Associate Professor, Department of Radiology, University of Missouri-Columbia School of Medicine and the Radiopharmaceutical Sciences Institute, Columbia, MO 65211
2009-present	Adjunct Associate Professor, Department of Medical Pharmacology and Physiology, University of Missouri-Columbia School of Medicine, Columbia, MO 65211
2009-present	Research Associate Professor, Missouri University Research Reactor, Columbia, MO 65211
2009-present	Adjunct Associate Professor, Nuclear Science and Engineering Institute, University of Missouri-Columbia, Columbia, MO 65211
2005-2010	Research Scientist (Grade 13, Step 7), United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans Hospital, Columbia, MO 65201
2004-2009	Adjunct Assistant Professor, Department of Medical Pharmacology and Physiology, University of Missouri-Columbia School of Medicine, Columbia, MO 65211
2003-2009	Assistant Professor, Department of Radiology, University of Missouri-Columbia School of Medicine and the Radiopharmaceutical Sciences Institute, Columbia, MO 65211
2003-2009	Research Assistant Professor, Missouri University Research Reactor, Columbia, MO 65211
2002-2009	Adjunct Assistant Professor, Nuclear Science and Engineering Institute, University of Missouri-Columbia, Columbia, MO 65211
2003-2005	Research Scientist WOC Appointment, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans Hospital, Columbia, MO 65201
2003-2004	Research Assistant Professor, Department of Internal Medicine, University of Missouri-Columbia School of Medicine and the Radiopharmaceutical Sciences Institute, Columbia, MO 65211
2002-2006	Ambassador of the United States of America to the International Atomic Energy Agency
2000-2003	Senior Research Chemist, University of Missouri-Columbia School of Medicine and the Radiopharmaceutical Sciences Institute, Columbia, MO 65211
2000-2003	Research Chemist WOC Appointment, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans Hospital, Columbia, MO 65201
1998-2000	Research Chemist, University of Missouri-Columbia, Radiopharmaceuticals Research Program, University of Missouri-Columbia Research Reactor Facility, Columbia, MO 65211

1997-1998	Post Doctoral Fellow/Research Chemist, University of Missouri-Columbia School of Medicine Department of Radiology, Columbia, MO 65211
1995-1997	Research Assistant, University of Missouri-Columbia Center for Radiological Research, Columbia, MO 65211
1992-1994	Teaching and Research Assistant, University of Missouri-Columbia, Columbia, MO 65211

I. RESEARCH

Research Support:

1. Agency: United States Department of Defense
   Title: Multimodal Imaging for Early Detection of Prostate Cancer
   Total Award: $283,500
   Time Period: 4-1-09 to 3-31-12
   Project Role: Co-Investigator (3% Effort); Lixin Ma (PI on Program)

2. Agency: United States Department of Veterans' Affairs
   Title: Preparation of Low-valent Tc/Re(I) Imaging/Therapeutic Agents
   Total Award: $1,119,936
   Time Period: 10-1-08 to 9-30-12
   Project Role: Principal Investigator on Program

3. Agency: United States Department of Energy
   Title: Functionalized PEI Nanoparticles for Delivery IGF-1R-targeted siRNAs to uPAR-expressing Tumors In Vitro and In Vivo
   Total Award: $620,200
   Time Period: 1-1-2010 to 12-31-2011
   Project Role: Co-Investigator (5% Effort); Michael Giblin (PI on Project)

4. Agency: University of Missouri Advantage Funds Request
   Title: Cancer Drug Development Center Automated Radiopharmaceutical Technology
   Total Award: $45,000
   Time Period: 4-1-2010
   Project Role: Co-Investigator (0% Effort); Timothy J. Hoffman (PI on Project)

Completed Research Support:

1. Agency: United States Department of Veterans' Affairs
   Title: Design and Synthesis of Ga/Cu-Labeled Imaging/Therapeutic Agents
   Total Award: $854,740
   Time Period: 4-1-07 to 3-31-10
   Project Role: Collaborator (3% Effort); Michael Giblin (PI on Project)

2. Agency: National Institute of Health 1-T32-EB004822-01A2
   Title: Graduate Training in Radiopharmaceutical Chemistry
   Total Award: $1,293,800
   Time Period: 4-1-2007 to 3-31-2012
   Project Role: Research Mentor; Silvia Jurisson and Susan Lever (PIs on Program)

3. Agency: National Cancer Institute
   Title: Development of [^{64}Cu-NOTA-X-BBN(7-14)NH_2] Conjugate: Novel Targeting Vectors for Positron Emission Tomographic Imaging of Gastrin Releasing Peptide Receptor-Expressing Tissues
   Total Award: $40,000 Project, $10,000,000 Total Program Award
   Time Period: 7-1-07 to 7-31-09
   Project Role: Principal Investigator (3% effort); W.A. Volkert (PI on Program)

4. Agency: International Atomic Energy Agency
   Title: Program of Study for Dr. Pablo Cabral Gonzalez
   Total Award: $4,300
   Time Period: 6-2-09 to 9-2-09
   Project Rold: Principal Investigator on Project

5. Agency: National Institutes of Health
   Title: From Clinic to Bench and Back, Clinical Biodetective Training
   Total Award: $63,000 Project (Graduate Student Stipend, 3 Years), $886,864 Total Program Award
   Time Period: 7-1-2006 to 7-31-2009
   Project Role: Research Mentor for Ms. Lauren Retzloff; Mark Milanick (PI on Program)

6. Agency: United States Department of Veterans' Affairs
   Title: Preparation of Low-valent Tc/Re(I) Imaging/Therapeutic Agents
   Total Award: $811,832
   Time Period: 4-1-05 to 3-31-08
   Project Role: Principal Investigator on Program

7. Agency: National Cancer Institute
Title: Development of 3-Dimensional Fluorescence Molecular Tomography for In Vivo Fusion Molecular Imaging
Total Award: $80,598 Project, $10,000,000 Total Program Award
Time Period: 8-1-05 to 7-31-07
Project Role: Co-Investigator (3% effort); Ping Yu (PI on Project); W.A. Volkert (PI on Program)

8. Agency: National Cancer Institute
Title: Development of GRP Receptor-Avid Radiopharmaceuticals
Total Award: $1,095,500
Time Period: 12-1-02 to 11-30-06
Project Role: Co-Investigator (10% effort); T.J. Hoffman (PI on Program)

9. Agency: American Cancer Society
Title: Targeting Prostate Cancer with Peptide Analogues
Total Award: $715,974
Time Period: 1-1-03 to 12-31-06
Project Role: Co-Investigator (10% effort); T.J. Hoffman (PI on Program)

10. Agency: Harry S. Truman Memorial Veterans' Hospital Research Foundation
Title: Mini-Proposal for Purchase of Symphony Quartet Peptide Synthesizer
Total Award: $40,000
Time Period: February 14, 2006
Project Role: Co-Principal Investigator on Program

11. Agency: The University of Missouri-Columbia
Title: Prime Match for Purchase of Symphony Quartet Peptide Synthesizer
Total Award: $20,000
Time Period: February 14, 2006
Project Role: Co-Principal Investigator on Program

12. Agency: National Institute of Biomedical Imaging and Bioengineering
Title: Preparation of Low-valent Tc(I) Imaging Agents
Total Award: $106,093 Project, $363,750 Total Program Award
Time Period: 9-1-04 to 8-31-06 (Remainder of Award Returned 3-31-05 Due to Budgetary and Scientific Overlap With VA Merit Review Application)
Project Role: Principal Investigator on Program

13. Agency: National Cancer Institute DHHS-1P20-CA86290-1
Title: Radiodiagnostic Agents for Primary and Metastatic Breast Cancer
Total Costs: $90,000.00 Project, $887,237 Total Program Award

Time Period: 10-1-2000 to 09-30-2002
Project Role: Co-Investigator (30% effort); T.J. Hoffman (PI on Project); W.A. Volkert (PI on Program)

14. Agency: National Cancer Institute DHHS-1P20-CA86290-1
Title: Assessment of the Utility of the Murine Polyomavirus Virion Protein 1 (VP1) Pentamer as a Polyvalent Imaging agent
Total Costs: $8,000.00 Project, $887,237 Total Program Award
Time Period: 6-1-2001 to 09-30-2002
Project Role: Co-Investigator (2% effort); W.R. Folk (PI on Project); W.A. Volkert (PI on Program)

Pending Research Support (Applications Under Review):

1. Agency: United States Department of Defense
   Title: Targeted Palladium Nanoconjugates for Imaging Prostate Cancer
   Total Award: $678,504.87
   Time Period: 5-1-2010 to 4-30-2013
   Project Role: Co-Investigator (4% Effort); Raghuraman Kannan (PI on Project)

2. Agency: Missouri Life Sciences Research Board
   Title: Targeted Palladium Nanoconjugates for Imaging Prostate Cancer
   Total Award: $561,464
   Time Period: 1-1-2011 to 12-31-2013
   Project Role: Co-Investigator (4% Effort); Raghuraman Kannan (PI on Project)

3. Agency: National Institutes of Health-NCI
   Title: Cancer Nanotechnology Platform Partnerships (U01)
   Total Award: $3,023,277
   Time Period: 9-1-2010 to 8-31-2015
   Project Role: Co-Investigator (8.3% Effort); Kattesh V. Katti (Contact PI; Carl E. Freter (PI on Project)

4. Agency: United States Department of Veterans' Affairs
   Title: Design and Synthesis of Ga/Cu-Labeled Imaging/Therapeutic Agents
   Total Award: $968,000
   Time Period: 4-1-07 to 3-31-10
   Project Role: Collaborator (0% Effort); Michael Giblin (PI on Project)

Patents/Invention Disclosures, Honors, and Awards:

1. Nanda, P.K.; and **Smith, C.J.** "A New Series of Site Specific ^{64}Cu-Bombesin Conjugates as Human Cancer Cell Imaging Agents." 238th National Meeting of the American Chemical Society, Washington, D.C., August, **2009**. *(Awarded Young Investigator's Award from the Society of Nuclear Medicine During the Probe Development in Molecular Imaging and Therapy Poster Session at the 238th National Meeting of the American Chemical Society. Research Mentor:* ***Charles J. Smith****)*

2. **Charles Jeffrey Smith**, Selection to the Order of Socrates II for Excellence in Medical Education. University of Missouri School of Medicine, Office of Medical Education, Columbia, MO, June 30, **2009**.

3. Lane, S. "Potential Diagnostic Imaging Agents for GRPr-Expressing Prostate Cancer." 26th Graduate Professional Council and Creative Activities Forum, Columbia, MO, March 7, **2009**. *(Awarded Second Place in the Physical Sciences Category. Research Mentors: Silvia Jurisson and* ***Charles J. Smith****)*

4. Lane, S. Breckenridge/Lyon's Outstanding Research Assistant Award. University of Missouri Department of Chemistry, **2009**. *(Research Mentors: Silvia Jurisson and* ***Charles J. Smith****)*

5. Lane, S.; Nanda, P.; and Prasanphanich A. "Prospective ^{64}Cu-NOTA-X-Bombesin Conjugates for Prostate Cancer Imaging." 25th Graduate Professional Council and Creative Activities Forum, Columbia, MO, March 8, **2008**. *(Awarded First Place in the Physical Sciences Category. Research Mentors: Silvia Jurisson and* ***Charles J. Smith****)*

6. Prasanphanich, A.F.; Ma, L.; Yu, P.; Rold, T.L.; Hoffman, T.J.; Figueroa, S.D.; Sieckman, G.L.; and **Smith, C.J.** "Imaging of Human Breast and Prostate Cancer Xenografts Using Bombesin-based Molecular Imaging Probes." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 16-20, **2007**. (*Awarded Best Undergraduate in Biotechnology Division, University of Missouri-Columbia Life Sciences Week; Presenting Author Prasanphanich*)

7. Prasanphanich, A.; Nanda, P.K.; Rold, T.L.; Ma, L.; Hoffman, T.J.; Sieckman, G.L.; Figueroa, S.D.; and **Smith, C.J.** "Development of Highly Specific Radiopharmaceutical & Molecular Imaging Agents for Diagnosis of Human Cancers." Washington, D.C., April 25, **2007**. (*Council on Undergraduate Research Posters on Capitol Hill Selection; Presenting Author Prasanphanich*)

8. **Charles Jeffrey Smith**, Who's Who in America, 2006/2007.

9. Prasanphanich, A.; and **Smith, C.J.** "Initial Evaluation of a New Series of Copper-64-NOTA-Bombesin Targeted Radiopharmaceuticals with PET Imaging Potential." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO,

November 10, **2006**. (*Awarded Second Place in Category I Health Sciences Research (Medical Students, Conley Scholars, and Undergraduates); Presenting Author Prasanphanich*)

10. **Charles Jeffrey Smith**, Special Emphasis Panel National Institute of Health. National Institute of Allergy & Infectious Diseases. "Radionuclide Decorporation Agents for Radiation/Nuclear Emergencies: Project Bioshield." RFA-A1-06-030, **2006**.

11. Balasubramanian, S.; Kujala, N.G.; Pacheco, D.; Yu, P.; Ma, L.; and **Smith, C.J.** "Designing a Frequency Domain Heterodyne System for 3D Diffused Photon Fluorescence Imaging." Winners of Systems Biology, Modeling, and Technology Development Symposia at University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006**.

12. **Charles Jeffrey Smith**, Full Member in Sigma Xi (The Scientific Research Honor Society), **2006**-present.

13. Figueroa, S.D.; Winkelmann, C.T.; Rold, T. L.; Sieckman, G.L.; **Smith, C.J.**; and Hoffman, T.J. "Characterization of a Dual Head Pinhole SPECT/CT with Sub-millimeter Resolution for laboratory Animal Molecular Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 11-14, **2005**. (*Awarded Second Place in the Technology Development Research Category, University of Missouri-Columbia Life Sciences Week; Presenting Author Figueroa*)

14. Katti, K.V.; Karra, S.R.; Berning, D.E.; **Smith, C.J.**; Volkert, W.A.; Ketring, A.R. "Hydroxymethyl Phosphine Compounds for Use as Diagnostic and Therapeutic Pharmaceuticals and Method of Making Same." European Patent No. 1009447.

15. Ketring, A.R.; Ehrhardt, G.J.; Embree, M.F.; Bailey, K.D.; Tyler, T.T.; Gawenis, J.A.; Jurisson, S.S.; Engelbrecht, H.P.; **Smith, C.J.**; and Cutler, C.S. "Production and Supply of High Specific Activity Radioisotopes for Radiotherapy Applications." *Winners of the World Federation of Nuclear Medicine and Biology Clinical and Basic Science Award, **2002**.*

16. Hoffman, T.J.; Volkert, W.A.; **Smith, C.J.**; Gali, H.; Sieckman, G.L. "Gastrin Receptor-avid Peptide Conjugates." United States Patent No. 7,060,247.

17. Katti, K.V.; Karra, S.R.; Berning, D.E.; **Smith, C.J.**; Volkert, W.A.; Ketring, A.R. "Hydroxymethyl Phosphine Compounds for Use as Diagnostic and Therapeutic Pharmaceuticals and Method of Making Same." United States Patent No. 6,054,115.

18. Katti, K.V.; Karra, S.R.; Berning, D.E.; **Smith, C.J.**; Volkert, W.A.; Ketring, A.R. "Hydroxymethyl Phosphine Compounds for Use as Diagnostic and Therapeutic Pharmaceuticals and Method of Making Same." United States Patent No. 5,855,867.

19. Charles Jeffrey Smith, United States Army Honorable Discharge, 1992.

20. **Charles Jeffrey Smith**, United States Air Force Mathematics and Science Award, **1987**.

List of Publications:

Peer-reviewed Professional Journal Articles:

1. Chandra, N.; Kattumuri, V.; Shukla, R.; Zambre, A.; Katti, K.; Upendran, A.; Kulkarni, R.; Kan, P.; Fent, G.; Casteel, S.; **Smith, C.J.**; Boote, E.; Robertson, J.D.; Cutler, C.; Katti, K.; and Kannan, R. "Bombesin Functionalized Gold Nanoparticles Show In Vitro and In Vivo Cancer Receptor Specificity." *Proceedings of the National Academy of Sciences USA*, **2010**, *(In Press)*.

2. Lane, S.R.; Nanda, P.K.; Rold, T.L.; Sieckman, G.L.; Figueroa, S.D.; Hoffman, T.J.; Jurisson, S.S.; and **Smith, C.J.** "Optimization, Biological Evaluation, and MicroPET Imaging of Copper-64-Labeled Agonists, [^{64}Cu-NO2A-X-BBN(7-14)NH_2], in a Prostate Tumor Xenografted Mouse Model." *Nucl. Med. Biol.*, **2010**, *(In Press)*.

3. Liu, D.; Overbey, D.; Watkinson, L.D.; **Smith, C.J.**; Figueroa, S.D.; Hoffman, T.J.; Forte, L.R.; Volkert, W.A.; and Giblin, M.F. "Comparative Evaluation of ^{64}Cu-labeled E. Coli Heat-stable Enterotoxin Analogs for PET Imaging of Colorectal Cancer." *Bioconjugate Chem.*, **2010**, *(In Press)*.

4. Chanda, N.; Kan, P.: Watkinson, L.D.; Shukla, R.; Zambre, A.; Carmack, T.L.; Engelbrecht, H.; Lever, J.R.; Katti, K.; Fent, G.M.; Casteel, S.W.; **Smith, C.J.**; Miller, W.H.; Jurisson, S.; Boote, E.; Robertson, J.D.; Cutler, C.; Dobrovolskaia, M.; Kannan, R.; Katti, K.V. "Radioactive Gold Nanoparticles in Cancer Therapy: Therapeutic Efficacy Studies of ^{198}AuNP-GA Nanoconstruct in Prostate Tumor Bearing Mice." *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2010**, *6*(2), 201-209.

5. Retzloff, L.B.; Heinzke, L.; Figureoa, S.D.; Sublett, S.V.; Sieckman, G.L.; Rold, T.L.; Hoffman, T.J.; and **Smith, C.J.** "Evaluation of [^{99m}Tc-$(CO)_3$-X-Y-Bombesin(7-14)NH_2] Conjugates for Targeting Gastrin Releasing Peptide Receptors Over-expressed on Breast Carcinoma." *Anticancer Research*, **2010**, *30*(1), 19-30.

6. Nanda, P.K.; Lane, S.R.; Retzloff, L.B.; Pandey, U.S.; and **Smith, C.J.** "Radiolabeled Regulatory Peptides for Imaging and Therapy." *Current Opinion in Endocrinology and Diabetes*, **2010**, *17*, 69-76.

7. Hoffman, T.J.; and **Smith, C.J.** "True Radiotracers: Copper-64 Targeting Vectors Based Upon Bombesin Peptide." *Nucl. Med. Biol.*, **2009**, *36*, 579-585.

8. Prasanphanich, A.; Retzloff, L.; Lane, S.R.; Nanda, P.K.; Sieckman, G.L.; Rold, T.L.; Ma, L.; Figueroa, S.D.; Sublett, S.V.; Hoffman, T.J.; and **Smith, C.J.** "*In Vitro* and *In Vivo* Analysis of [^{64}Cu-NOTA-8-Aoc-BBN(7-14)NH_2]: a Site-Directed Radiopharmaceutical for PET Imaging of T-47D Human Breast Cancer Tumors." *Nucl. Med. Biol.*, **2009**, *36*(2), 171-181.

9. Faintuch, B.L.; Teodoro, R.; Duatti, A.; Morganti, L.; Muramoto, E.; Faintuch, S.; and **Smith, C.J.** "Radiolabeled Bombesin Analogs for Prostate Cancer Diagnosis: Preclinical Studies." *Nucl. Med. Biol*., **2008**, *35*, 401-411.

10. Lane, S.R.; Veerendra, B.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; Jurisson, S.S.; and **Smith, C.J.** "$^{99m}Tc(CO)_3$-DTMA (DTMA = DIETHYLENETRIAMINE MONOACETATE) Bombesin Conjugates Having High Affinity for the GRP Receptor." *Nucl. Med. Biol*., **2008**, *35*, 263-272.

11. Prasanphanich, A.; Nanda, P.K.; Rold, T.L.; Ma, L.; Lewis, M.R.; Hoffman, T.J.; Sieckman, G.L.; Figueroa, S.D.; and **Smith, C.J.** "[^{64}Cu-NOTA-8-Aoc-BBN(7-14)NH_2] Conjugate: A Novel Targeting Vector for Positron Emission Tomographic Imaging of Gastrin Releasing Peptide Receptor-Expressing Tissues." *The Proceedings of the National Academy of Sciences USA*, **2007**, *104*(30), 12462-12467.

12. Kunstler, J-U.; Veerendra, B.; Figueroa, S.D.; Sieckman, G.L.; Rold, T.L.; Hoffman, T.J.; **Smith, C.J.**; and Pietzsch, H.J. "Organometallic ^{99m}Tc(III) 4+1 Bombesin(7-14)NH_2 Conjugates: Synthesis, Radiolabeling, and *In Vitro*/*In Vivo* Studies." *Bioconjugate Chem.*, **2007**, *18*, 1651-1661.

13. Ma, L.; Yu, P.; Veerendra, B.; Rold, T.L.; Retzloff, L.; Prasanphanich, A.; Sieckman, G.; Hoffman, T.J.; Volkert, W.A.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of Alexa Fluor 680-BBN[7-14]NH_2 Peptide Conjugate; A High-affinity Fluorescent Probe Having High Selectivity for the GRP Receptor." *Molecular Imaging*, **2007**,*6*(3), 171-180.

14. Alves, S.; Correia, J.D.G.; Rold, T.L.; Prasanphanich, A.; Haubner, R.; Rupprich, M.; von Guggenberg, E.; Alberto, R.; Decristoforo, C.; Santos, I.; and **Smith, C.J.** "$^{99m}Tc(CO)_3$-Pyrazolyl Conjugates of RGD: *In Vitro* and *In Vivo* Evaluation of [$^{99m}TcL(CO)_3$-Cyclo[Arg-Gly-Asp-D-Tyr-Lys]] (L = A Tridentate Pyrazolyl-based Chelating Ligand Framework)." *Bioconjugate Chem.*, **2007**, *18*, 530-537.

15. Prasanphanich, A.; Lane, S.R.; Figueroa, S.D.; Ma, L.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; McCrate, J.M.; and **Smith, C.J.** "The Effects of Linking Substituents on the In Vivo Behavior of Site-directed, Peptide-based, Diagnostic Radiopharmaceuticals." *In Vivo. International Journal of Experimental and Clinical Pathophysiology and Drug Research*, **2007**, *21*(2), 3-18.

16. Decristoforo, C.; Santos, I.; Pietzsch, H.J.; Duatti, A.; **Smith, C.J.**; Faintuch, B.L.; Rey, A.; Alberto, R.; von Guggenberg, E.; and Haubner, R. "Comparison of *In Vitro* and *In Vivo* Properties of ^{99m}Tc-RGD Peptides Labeled Using Different Novel Tc-cores." *The Quarterly Journal of Nuclear Medicine and Molecular Imaging*, **2007**, *51*(1), 33-41.

17. Kannan, R.; Rahing, V.; Cutler, C.; Pandrapragada, R.; Katti, K.V.; Kattumuri, V.; Robertson, J.D.; Casteel, S.J.; Jurisson, S.; **Smith, C.**; Boote, E.; and Katti, K.V.

"Nanocompatible Chemistry Toward Fabrication of Target-Specific Gold Nanoparticles." *Journal of the American Chemical Society*, **2006**, *128*(35), 11342-11343.

18. Veerendra, B.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Retzloff, L.; McCrate, J.; Prasanphanich, A.; and **Smith C.J.** "Synthesis, Radiolabeling and *In vitro* GRP Receptor Targeting Studies of ^{99m}Tc-Triaza-X-BBN[7-14]NH_2 (X = Serylserylserine, Glycylglycylglycine, Glycylserylglycine, or Beta Alanine)." *Journal of Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-metal Compounds*, **2006**, *36*(6), 481-491.

19. Johnson, C.V.; Shelton, T.D; **Smith,C.J.**; Ma, L.; Perry, M.C.; Volkert, W.A.; and Hoffman, T.J. "Evaluation of Combined ^{177}Lu-DOTA-8-AOC-BBN(7-14)NH_2 GRP Receptor Targeted Radiotherapy and Chemotherapy in PC-3 Human Prostate Tumor Cell Xenografted SCID Mice." *Cancer Biotherapy & Radiopharmaceuticals*, **2006,** *21*(2), 155-165.

20. Moustapha, M.E.; Ehrhardt, G.J.; **Smith, C.J.**; Szajek, L.; Eckelman, W.C.; and Jurisson, S.J. "Preparation of Cyclotron-Produced Re-186 and Comparison with Reactor-Produced Re-186 and Generator-Produced Re-188 for the Labeling of Bombesin." *Nucl. Med. Biol*., **2006**, *33*(1), 81-89.

21. Alves, S.; Santos, I.; Bhadrasetty, V.; Correia, J.D.G.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Figueroa, S.D.; Retzloff, L.; McCrate, J.; Prasanphanich, A.; and **Smith, C.J.** "Pyrazolyl Conjugates of Bombesin: A New Tridentate Ligand Framework for Stabilization of the *fac*-$M^I(CO)_3$ Moiety." *Nucl. Med. Biol.*, **2006**, *33*(5), 625-634.

22. **Smith, C.J.**; Volkert, W.A.; and Hoffman, T.J. "Radiolabeled Peptide Conjugates for Targeting of the Bombesin Receptor Superfamily Subtype." *Nucl. Med. Biol*., **2005**, *32*(7), 733-740.

23. Alves, S.; Paulo, A.; Correia, J.D.G.; Gano, L.; **Smith, C.J.**; and Santos, I. Pyrazolyl Derivatives as Bifunctional Chelators for Labeling Tumor-Seeking Peptides with the *fac*-$[M(CO)_3]^+$ Moiety (M = ^{99m}Tc, Re): Synthesis, Characterization, and Biological Behavior." *Bioconjugate Chem.*, **2005**, *16*(2), 438-449.

24. Giblin, M.F.; Veerendra, B.; and **Smith, C.J**. "Radiometallation of Receptor-Specific Peptides for Diagnosis and Treatment of Human Cancer." *In Vivo. New Anticancer Agents: In Vitro and In Vivo Evaluation (First Special Edition/Anticancer Research)*, **2005**, *19*, 9-30.

25. Faintuch B.L.; Santos R.L.S.R.; Souza A.L.F.M.; Hoffman T.J.; Greeley M.; and **Smith C.J.** "^{99m}Tc-HYNIC-Bombesin (7-14)NH_2: Radiochemical Evaluation With Co-ligands EDDA (EDDA = Ethylenediamine-N,N'-diacetic Acid), Tricine, and

Nicotinic Acid." *Journal of Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-metal Compounds*, **2005**, *35*, 43-51.

26. Miller, W.H.; Hartmann-Siantar, C.; Fisher, D.; Descalle, M-A.; Daly, T.; Lehmann, J.; Lewis, M.R.; Hoffman, T.J.; **Smith, C.J.**; Situ, P.D.; and Volkert, W.A. "Evaluation of Beta Absorbed Fractions in a Mouse Model for ^{90}Y, ^{188}Re, ^{166}Ho, ^{149}Pm, ^{177}Lu, and ^{64}Cu Radioisotopes." *Cancer Biotherapy & Radiopharmaceuticals*, **2005,** *20*(4) 436-449.

27. **Smith, C.J.**; Volkert, W.A.; and Hoffman, T.J. "Gastrin Releasing Peptide (GRP) Receptor-Targeted Radiopharmaceuticals: A Concise Update." *Nucl. Med. Biol*., **2003**, *30*, 861-868.

28. Ketring, A.R.; Ehrhardt, G.J.; Embree, M.F.; Bailey, K.D.; Tyler, T.T.; Gawenis, J.A.; Jurisson, S.S.; Engelbrecht, H.P.; **Smith, C.J.**; and Cutler, C.S. "Production and Supply of High Specific Activity Radioisotopes for Radiotherapy Applications." *Alasbimn Journal*, **2003**, *5*(19), 1-7.

29. **Smith**, **C.J.**; Sieckman, G.L.; Owen, N.K.; Hayes, D.L.; Mazuru, D.L.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of [^{188}Re(H_2O)$(CO)_3$-Dpr-SSS-Bombesin(7-14)NH_2]: Syntheses, Radiolabeling, and *In Vitro*/*In Vivo* Studies Where Dpr = Diaminopropionic Acid." *Anticancer Research*, **2003**, *23*(2), 63-70.

30. Hoffman, T.J.; Gali, H.; **Smith, C.J.**; Sieckman, G.L.; Hayes, D.L.; Owen, N.K.; and Volkert, W.A.; "Novel Series of Indium-111 Labeled Bombesin Analogues as Potential Radiopharmaceuticals for Specific Targeting of Gastrin Releasing Peptide (GRP) Receptors Expressed on Human Prostate Cancer Cells." *J. Nucl. Med*., **2003**, *44*, 823-831.

31. **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; Hayes, D.L.; Mazuru, D.G.; Kannan, R.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of GRP Receptor-specific [^{99m}Tc(X)$(CO)_3$- Dpr-Ser-Ser-Ser-Gln-Trp-Ala-Val-Gly-His-Leu-Met-(NH_2)] in PC-3, Tumor-bearing, Rodent Models: Syntheses, Radiolabeling, and *In Vitro*/*In Vivo* Studies Where Dpr = 2,3-Diaminopropionic acid and X = H_2O or P$(CH_2OH)_3$." *Cancer Research*, **2003**, *63*, 4082-4088.

32. **Smith, C.J.**; Gali, H.; Sieckman, G.L.; Hayes, D.L.; Owen, N.K.; Mazuru, D.G.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of ^{177}Lu-DOTA-8-BBN[7-14]NH_2: An *In Vitro*/*In Vivo* Assessment of the Targeting Ability of this New Radiopharmaceutical for PC-3 Human Prostate Cancer Cells." *Nucl. Med. Biol*., **2003**, *30*(3), 101-109.

33. **Smith, C.J.**; Gali, H.; Sieckman, G.L.; Higginbotham, C.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of ^{99m}Tc-N_3S-X-BBN(7-14)NH_2: An *In Vitro*/*In Vivo* Structure-Activity Relationship Study Where X = 0, 3, 5, 8, and 11-Carbon Tethering Moieties." *Bioconjugate Chem.*, **2003**, *14*, 93-102.

34. Li, W.P.; **Smith, C.J.**; Cutler, C.S.; Ketring, A.R; and Jurisson, S.S. "Aminocarboxylate and Octreotide Complexes with No Carrier Added ^{177}Lu, ^{166}Ho, and ^{149}Pm." *Nucl. Med. Biol.*, **2003**, *30*, 241-251.

35. Cutler, C.S.; **Smith, C.J.**; Ehrhardt, G.J.; Tyler, T.T.; Jurisson, S.S.; and Deutsch, E. "Current and Potential Therapeutic Uses of Lanthanide Radioisotopes." *Cancer Biotherapy & Radiopharmaceuticals*, **2000**, *15*(6), 531.

36. Katti, K.V.; Gali, H.; **Smith, C.J.**; and Berning, D.E. "Design and Development of Functionalized Water-Soluble Phosphines: Catalytic and Biomedical Implications." *Acc. Chem. Res.,* **1999**, *32*, 9.

37. **Smith, C. J.**; Reddy, V. S.; and Katti, K. V. "Different Coordination Modes of the New Water-Soluble Triphosphine (PhP[$CH_2CH_2P(CH_2OH)_2]_2$) with Pt(II), Pd(II), Rh(I), and Re(V)." (FULL PAPER) *J. Chem. Soc., Dalton Trans.*, **1998**, *8*, 1365.

38. **Smith, C.J.**; Li, N.; Katti, K.V.; Volkert, W.A.; and Ketring, A.R. "*In Vitro* and *In Vivo* Characterization of Novel, Water - Soluble, Dithio-bisphosphine ^{99m}Tc-Complexes." *Nucl. Med. Biol*. **1997**, *24*, 685.

39. **Smith, C.J.**; Katti, K.V; Volkert, W.A.; and Barbour, L.J. "The Synthesis and Characterization of Chemically Flexible Water - Soluble Dithio–Bisphosphine Compounds: $(HOH_2C)_2P(CH_2)_2S$-$(CH_2)_3S(CH_2)_2P(CH_2OH)_2$, $(HOH_2C)_2P(CH_2)_2$-$S(CH_2)_3S(CH_2)_2P(CH_2OH)_2$, and $(HOH_2C)_2P(CH_2)_2S(CH_2)_3S(CH_2)_2P(CH_2OH)_2$. Systematic Investigation of the Effect of Chain Length on the Coordination Chemistry of Rhenium(V). X-Ray Crystal Structures of $[ReO_2(HOH_2C)_2P(CH_2)_2S(CH_2)_3S$-$(CH_2)_2P(CH_2OH)_2]_2(Cl)_2$, $[ReO_2(HOH_2C)_2P(CH_2)_2S(CH_2)_4S$-$(CH_2)_2P(CH_2OH)_2]_2(ReO_4^-)_2$, $[ReO_2(HOH_2C)_2P(CH_2)_3S(CH_2)_3S(CH_2)_3P(CH_2OH)_2](Cl)$." *Inorg. Chem*. **1997**, *36*, 3928.

40. **Smith, C.J.**; Reddy, V.S.; Katti, K.V.; and Barbour, L.J. "The Synthesis and Coordination Chemistry of the First Water - Soluble Dithio-Bisphosphine Ligands $[(HOH_2C)_2P(CH_2)_2S$-X-$S(CH_2)_2P(CH_2OH)_2]$ (X = $(CH_2)_3$ or C_6H_4). X-Ray Crystal Structure of $[Pd(HOH_2C)_2P(CH_2)_2S(CH_2)_3S(CH_2)_2P(CH_2OH)_2](Cl)_2$." *Inorg. Chem*. **1997**, *36*, 1786.

41. **Smith, C.J.**; Reddy, V.S.; and Katti, K.V. "New Advances in the Synthesis of a Water-Soluble Triphosphine and the Development of Tripodally Coordinated Rhodium(I) and Platinum(II) Complexes." *J. Chem. Soc., Chem. Commun*. **1996**, 2557.

Book Chapters:

1. Esteves, T.; Marques, F.; Rino, J.; **Smith, C.J.**; and Santos, I.; "Trifunctional Tricarbonyl Complexes for Cell-Specific and Nuclear Targeting." *Technetium, Rhenium and Other Metals in Chemistry and Nuclear Medicine*. M. Nicolini, U. Mazzi Eds., SGE Editoriali, Padova, Italy. Volume X, **2010**, (In Press).

2. **Smith C.J.**; Nanda, P.K.; Lane, S.; Sieckman, G.L.; Hoffman, T.J.; and Rold, T.; "A Comparative Study of ^{64}Cu-NO2A-Bombesin Antagonist and Agonist Ligands." *Technetium, Rhenium and Other Metals in Chemistry and Nuclear Medicine*. M. Nicolini, U. Mazzi Eds., SGE Editoriali, Padova, Italy. Volume X, **2010**, (In Press).

3. Nanda, P.K.; Prasanphanich, A.F.; Lane, S.R.; Retzloff, L.; Hoffman, T.J.; and **Smith, C.J.** "Tc-99m Conjugates of Bombesin for Specific Targeting and Molecular Imaging of Gastrin Releasing Peptide Receptor-Expressing Cancers." *Recent Advances of Bioconjugate Chemistry and Molecular Imaging*. Dr. S.G. Pandalai Ed., Research Signpost, Kerala, India. **2008**, 199-211.

4. Kunstler, J.-U.; Veerendra, B.; Sieckman, G.L.; **Smith, C.J.**; and Pietzsch, H.-J. "Organometallic Tc(III) Complexes for Bombesin Labeling." *Technetium, Rhenium and Other Metals in Chemistry and Nuclear Medicine*. M. Nicolini, U. Mazzi Eds., SGE Editoriali, Padova, Italy. Volume 7, **2006**, 317-318.

5. Veerendra, B.; Lane, S.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Retzloff, L.; Prasanphanich, A.; Jurisson, S.S.; and **Smith C.J.** "^{99m}Tc-$(CO)_3$-DTMA (DTMA = Diethylenetriamineacetic Acid) Conjugates of Bombesin: A Novel Series of Peptide Conjugates Having Very High Affinity for the GRP Receptor Subtype 2." *Technetium, Rhenium and Other Metals in Chemistry and Nuclear Medicine*. M. Nicolini, U. Mazzi Eds., SGE Editoriali, Padova, Italy. Volume 7, **2006**, 319-320.

6. Miller, W. H.; Hartmann-Siantar, C.; Descalle, M.A.; Lehmann, J.; Lewis, M.R.; Hoffman, T.J.; **Smith, C.J.**; Situ, P. and Volkert, W.A. "Mouse Organ Absorbed Dose Fractions for Beta Emitters." *Trans. Am. Nucl. Soc*., **2003**, *89*, 689-692.

7. **Smith**, **C.J.**; Sieckman, G.L.; Owen, N.K.; Hayes, D.L.; Mazuru, D.L.; Kannan, R.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of [^{99m}Tc$(H_2O)(CO)_3$-Dpr-(X)-Bombesin(7-14)NH_2], a New Family of GRP-receptor Targeting Radiopharmaceuticals." *Technetium, Rhenium and Other Metals in Chemistry and Nuclear Medicine*. M. Nicolini, U. Mazzi Eds., SGE Editoriali, Padova, Italy. Volume 6, **2002**, 339.

Professional Reports/Publications from the Proceedings of Meetings:

1. Kujala, N.; Zhai, H.; **Smith, C.J.**; Prasanphanich, A.; Sieckman, G.; Hoffman, T.; Volkert, W.; Ma, L.; and Yu, P. "A New Near-infrared Absorption and Fluorescent

Probe Based on Bombesin for Molecular Imaging." *Proc. SPIE*, Volume 7190, **2009**, 1-9.

2. Ma, L.; Brown, A.; Kujala, N.; **Smith, C.J.**; Figueroa, S.D.; Yu, P.; Hoffman, T.J.; and Volkert, W.A. "Functional Apparent Diffusion Mapping the Uptake of Tumor-Targeting Bombesin Probes in Human Breast and Prostate Cancer Xenografts." Proc. *Intl. Soc. Mag. Reson. Med*. **2008**, *16*, 2813.

3. Santos, I.; Fernandes, C.; Alves, S.; Galamba, J.; Gano, L.; Pirmettis, I.; Decristoforo, C.; **Smith, C.J.**; and Alberto, R. "Labeling of Qunazoline and RGD-peptides with the $[^{99m}Tc(CO)_3]^+$ Core: Synthesis, Characterization, and Biological Evaluation." *Report of the Third Research Co-ordination Meeting on Development of Tc-99m Based Small Molecules Using Novel Tc-99m Cores. A Technical Report of the International Atomic Energy Association (SERIES 459)*, Budapest, Hungary, **2007,** 219-231.

4. Alves, S.; Correia, J.D.G.; Santos, I.; Decristoforo, C.; Alberto, R.; and **Smith, C.J.** "*In Vitro* and *In Vivo* Evaluation of $[^{99m}Tc(CO)_3$-Cyclo[Arg-Gly-Asp-D-Tyr-Lys(PZ1)]." *Report of the Third Research Co-ordination Meeting on Development of Tc-99m Based Small Molecules Using Novel Tc-99m Cores. A Technical Report of the International Atomic Energy Association (SERIES 459)*, Budapest, Hungary, **2007,** 287-302.

5. Cheng, K.T.; **Smith, C.J.**; Ma, L.; Yu, P.; and Hoffman, T.J. Alexa Fluor 680-glycylglycylglycine-bombesin[7-14]NH_2 Peptide. Alexa Fluor 680-G-G-G-BN[7-14]NH_2. Molecular Imaging and Contrast Agent Database (MICAD). National Library of Medicine (Bethesda, MD, USA), NCBI; **2007**.

6. Balasubramanian, S.; Carmignani, B.; Kujala, N.G.; Ma, L.; **Smith, C.J.**; and Yu, P. "Using Fluorescence Molecular Tomography for Multimodality Fusion Imaging." *Proc. SPIE*, Volume 6431, **2007**, 643110.

7. Hoffman, T.J.; Rold, T.L.; Figueroa, S.D.; Sieckman, G.L.; Garrison, G.C..; Winkelmann, C.T.; **Smith, C.J.**; Perry, M.C.; and Volkert, W.A. "The Gastrin Releasing Peptide Receptor (BB2r) as a Potential Target for Diagnostic and Therapeutic Radiopharmaceuticals." *Proceedings of the UICC World Cancer Congress*, **2007**, 63-67.

8. Katti, K.; Kannan, R.; Kattumori, V.; Pandrapraganda, R.; Rahing, V.; Cutler, C.; Boote, E.; Casteel, S.; Smith, C.; Robertson, J.; Jurrison, S. "Hybrid Gold Nanoparticles in Molecular Imaging and Radiotherapy." *Czechoslovak Journal of Physics*, **2006**, *56*, D23-D34, Suppl. 4.

9. Alves, S.; Correia, J.D.G.; Santos, I.; Decristoforo, C.; Alberto, R.; and **Smith, C.J.** "*In Vitro* and *In Vivo* Evaluation of $[^{99m}Tc(CO)_3$-Cyclo[Arg-Gly-Asp-D-Tyr-Lys(PZ1)]." *Report of the Second Research Co-ordination Meeting on Development*

of Tc-99m Based Small Molecules Using Novel Tc-99m Cores. An Internal report of the International Atomic Energy Association, Vienna, Austria, **2004**, 124-138.

10. Duatti, A.; **Smith, C.J.**; Decristoforo, C.; Alberto, R.; Kornyei, J.; Santos, I.; Kothari, K.; Faintuch, B.; Pietzsch, H.J.; Pirmettis, I.; Rios, A.; Suglobov, D.; and Narasimhan, D.V.S. *Report of the First Research Co-ordination Meeting on Development of Tc-99m Based Small Molecules Using Novel Tc-99m Cores. An Internal Report of the International Atomic Energy Association*, Ferrara, Italy, **2003**.

11. Duatti, A.; **Smith, C.J.**; Schibli, R.; Alberto, R.; Schubiger, P.A.; Santos, I.; Verbruggen, A.; and Narasimhan, D.V.S. *Report of a Consultants' Meeting on Recent Advances in Tc-99m Labeling of Small Molecules Using Novel Tc-99m Cores. An Internal Report of the International Atomic Energy Association*, Zurich, Switzerland, **2002**.

12. Katti, K.V.; Berning, D.E.; **Smith, C.J.**; and Gali, H. "Construction of Water-Soluble Phosphines. New Advances in Aqueous Organometallic Chemistry." *Phosphorus, Sulfur, and Silicon and the Related Elements*, **1999**, *144-146*, 461.

13. **Smith, C.J.**; Higginbotham, C.; Katti, K.V.; and Volkert, W.A. "Rhodium-105 Complexes of Polydentate, Aqueous-soluble, Phosphine Ligands: New Radiochemical Developments Towards Radioimmunotherapy." *Phosphorus, Sulfur, and Silicon and the Related Elements*, **1999**, *144-146*, 481.

Peer-reviewed Abstracts:

1. Faintuch, B.L.; Fernandez, E.; Teodoro, R.; Wiecek, D.; Agarbuio, A.; Moro, A.; and **Smith, C.J.** "^{99m}Tc-SAMA-GGG-Ahx-BBN for GRP Receptor Targeting." *J. Nucl. Med.*, **2010**, *(In Press)*.

2. **Smith C.J.**; Nanda, P.K.; Lane, S.; Sieckman, G.L.; Hoffman, T.J.; and Rold, T.; "A Comparative Study of ^{64}Cu-NO2A-Bombesin Antagonist and Agonist Ligands." *Nucl. Med. Biol.*, **2010**, *(In Press)*.

3. Nanda, P.K.; Pandey, U.; Rold, T.L.; Sieckman, G.L.; Figueroa, S.D.; Ma, L.; Hoffman, T.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of 64Cu-NO2A-X-BBN Antagonists as Potential Agents for Prostate Cancer Imaging." *J. Nucl. Med.*, **2010**, *(In Press)*.

4. Nanda, P.K.; and **Smith, C.J.** "A New Series of Site Specific ^{64}Cu-Bombesin Conjugates as Human Cancer Cell Imaging Agents." *Abstracts of Papers of the American Chemical Society 238*, **2009**, INOR-631.

5. Wiecek, D.; Faintuch, B.L.; Teodoro, R.; Fernandez, E.G.; and **Smith, C.J.** "Radiolabeling and Biodistribution Studies of the New Angiogenesis Tracer Cyclic ASn-Gly-Arg (NGR)." *J. Nucl. Med.*, **2009**, *50*, 215P, Suppl. 2.

6. Karacay, H.; McBride, W.J.; Sharkey, R.M.; Cardillo, T.; **Smith, C.J.**; and Goldenberg, D.M. "^{18}F Labeling of a Peptide for PET Imaging of Receptor-expressing Tumors." *J. Nucl. Med.*, **2009**, *50*, 1567, Suppl. 2.

7. Lane, S.; Nanda, P.; Prasanphanich, A.; Sieckman, G.; Rold, T.; Ma, L.; Figueroa, S.; Sublett, S.; Hoffman, T.; and **Smith C.** "In Vitro and In Vivo Evaluation of [64Cu-NO2A-(X)-BBN(7-14)NH2] Radiopharmaceuticals for Potential PET Imaging of Human Prostate Cancer." *J. Labeled Compd. Radiopharm*., **2009**, S457.

8. Kan, P.; Engelbrecht, H.P.; Watkinson, L.D.; Carmack, T.L.; Lever, J.R.; **Smith, C.J.**; Kannan, K.V.; Katti, K.V.; Jurisson, S.S.; and Cutler, C.S. "Evaluation of Gum Arabic Stabilized Gold-198 Nanoparticles in Prostate Cancer Bearing Mice." *J. Labeled Compd. Radiopharm*., **2009**, S521.

9. Lewis, M.R.; Prasanphanich, A.F.; Retzloff, L.; Lane, S.R.; Nanda, P.R.; Sieckman, G.L.; Rold, T.L.; Ma, L.; Figueroa, S.D.; Sublett, S.V.; Hoffman, T.J.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of [(Cu)-64-NOTA-AOC-BBN(7-14)NH2] Radiopharmaceutical for PET Imaging of Human Breast and Prostate Cancer Tumors." *Anticancer Research*, **2008**, *28*, 401, 3377.

10. Prasanphanich, A.; Nanda, P.K.; Rold, T.L.; Hoffman, T.J.; and **Smith, C.J.** "Evaluation of a New Series of Copper-64-Bombesin Targeted Radiopharmaceuticals with PET Imaging Potential." *J. Labeled Compd. Radiopharm*., **2007**, *50*(1), S338.

11. Decristoforo, C.; Rey, A.; Kuenstler, J.U.; Pietzsch, H.J.; Correia, J.D.G.; Santos, I.; **Smith, C.J.**; Faintuch, B.L.; Hernandez-Gonzales, I.; Rupprich, M.; Alberto, R.; and Haubner, R. "Comparison of *In Vitro* and *In Vivo* Properties of ^{99m}Tc-RGD Peptides for Targeting Tumor Angiogenesis, Labeled Using Different Novel Technetium-cores." *The Quarterly Journal of Nuclear Medicine and Molecular Imaging*, **2006**, 1(1), Supplement 1, 20.

12. Figueroa, S.D.; Winkelmann, C.; Miller, W.; Rold, T.; Sieckman, G.; **Smith, C.**; Ma, L.; Garrison, J.; Volkert, W.; and Hoffman, T. "TLD-100 Measurement and Assessment of Internal Mouse Dosimetry During Micro-CT Analysis." *Medical Physics*, **2006**, *128*(35), 2211.

13. Ehrhardt, G.J.; Moustapha, M.E.; **Smith, C.J.**; Szajek, L.; Eckelman, W.C.; and Jurisson, S.J. "Preparation of Cyclotron Re-186 and Comparison with Reactor Re-186 and Generator Re-188 for the Labeling of Bombesin." *J. Labeled Compd. Radiopharm*., **2005**, *48*(1), S16.

14. **Smith, C.J.**; Alves, S.; Santos, I.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Retzloff, L.; McCrate, J.; Prasanphanich, A.; and Bhadrasetty, V. "Technetium(I) Pyrazolyl Bombesin Conjugates: A Concise *InVitro/In Vivo* Study." *J. Labeled Compd. Radiopharm*., **2005**, *48*(1), S46.

15. Ma, L.; **Smith, C.J.**; Sieckman, G.L.; Volkert, W.A.; and Hoffman, T.J. "Structural Characterization of DOTA-8-Aoc-Bombesin(7-14)NH2 Analogue Using Nuclear Magnetic Resonance Spectroscopy." *J. Labeled Compd. Radiopharm.*, **2005**, *48*(1), S324.

16. **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; Atkinson, L.A.; Volkert, W.A.; and Hoffman, T.J. "Design and Development of Tc-99m-Carbonyl-Bombesin Analogs: A Structure Activity Relationship Study." *J. Nucl. Med.*, **2003**, *44*(5), 298P, Suppl. S.

17. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; Foster, B.N.; Mazuru, D.G.; Shelton, T.D.; and Volkert, W.A. "Preclinical Evaluation of Y-90 and Lu-177 Radiolabeled Peptides for In Vivo Targeted Radiotherapy of Prostate Cancer." *International Journal of Cancer*, **2002**, 462-432, Suppl. 13.

18. Papagiannopoulou, D.; Raghuraman, K.; Pillarsetty, N.; Katti, K.V.; **Smith, C.J.**; Hoffman, T.J.; Owen, N.; Greeley, M.; and Jurisson, S. "Synthesis and Biological Evaluation of Novel Tc-99m Tricarbonyl Complexes with Amine Ligands." *J. Nucl. Med.*, **2002**, *43*(5), 375P, Suppl. S.

19. Gali, H.; **Smith, C.J.**; Hoffman, T.J.; Sieckman, G.L.; Hayes, D.L.; Owen, N.K.; and Volkert, W.A. "Influence of the Radiometal on the In Vivo Pharmacokinetic Properties of a Radiometal-Labeled DOTA-Conjugated Peptide." *Abstracts of Papers of the American Chemical Society 222*, **2001**, U569-U570, Part 1.

20. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; Hayes, D.L.; and Volkert, W.A. "Development of a Diagnostic Radiopharmaceutical for Visualization of Primary and Metastatic Breast Cancer." *J. Nucl. Med.*, **2001**, *42*(5), 254P, Suppl. S.

21. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; Hayes, D.L.; Foster, B.; and Volkert, W.A. "In-111, Y-90 Radiolabeled Peptides for Targeting Prostate Cancer." *J. Nucl. Med.*, **2001**, *42*(5), 274P, Suppl. S.

22. **Smith, C.J.**; Hoffman, T.J.; Gali, H.; Hayes, D.L.; Owen, N.K.; Sieckman, G.L.; and Volkert, W.A. "Detailed Radiochemical Investigations of ^{177}Lu-DOTA-8-Aoc-BBN[7-14]NH_2: A New Gastrin Releasing Peptide Receptor (GRPr) Targeting Radiopharmaceutical." *J. Labeled Compd. Radiopharm.*, **2001**, *44*(1), S706.

23. Hoffman, T.J.; **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; and Volkert, W.A. "Design, Synthesis, and Biological Evaluation of Novel Gastrin Releasing Peptide Receptor Targeting Radiopharmaceuticals." *Abstracts of Papers of the American Chemical Society 220*, **2000**, U546, Part 1.

24. Hoffman, T.J.; **Smith, C.J.**; Simpson, C.D.; Sieckman, G.L.; Higginbotham, C.; Jimenez, H.; Eshima, D.; Thornback, J.R.; and Volkert, W.A. "Optimizing Pharmacokinetics of Tc-99m-GRP Receptor Targeting Peptides Using Multi-Amino Acid Linking Groups." *J. Nucl. Med.*, **2000**, *41*(5), 228P, Suppl. S.

25. Li, W.P.; **Smith, C.J.**; Cutler, C.S.; Ketring, A.R.; and Jurisson, S.S. "Development of Receptor-based Radiopharmaceuticals Using Carrier-Free Promethium-149: Syntheses, In Vitro Stability Studies, and In Vivo Biodistribution Studies of DTPA, DOTA, and DTPA-Octreotide Complexes." *J. Nucl. Med.*, **2000**, *41*(5), 246P, Suppl. S.

26. Hoffman, T.J.; Simpson, S.D.; **Smith, C.J.**; Simmons, J.; Sieckman, G.L.; Higginbotham, C.; Eshima, D.; Volkert, W.; and Thornback, J.R. "Accumulation and Retention of Tc-99m RP591 by GRP Receptor Expressing Tumours in SCID Mice." *European Journal of Nuclear Medicine*, **1999**, *26*(9), 1156.

27. Hoffman, T.J.; Simpson, S.D.; **Smith, C.J.**; Simmons, J.; Sieckman, G.L.; Higginbotham, C.; Eshima, D.; Volkert, W.; and Thornback, J.R. "Accumulation and Retention of Tc-99m RP527 by GRP Receptor Expressing Tumours in SCID Mice." *J. Nucl. Med.*, **1999**, *40*(5), 104P, Suppl. S.

28. **Smith, C.J.**; Hoffman, T.J.; Higginbotham, C.; Wong, E.; Eshima, D.; Thornback, J.; and Volkert, W.A. "Evaluation of a Novel N32 Chelation System for the Preparation of Tc-99m and Re-188 Labeled Biomolecules." *J. Nucl. Med.*, **1998**, *39*(5), 215P, Suppl. S.

29. Schibli, R.; Karra, S.R.; Gali, H.; Katti, K.V.; Higginbotham, C.; **Smith, C.J.**; Hoffman, T.J.; and Volkert, W.A. " Conjugation of Small Biomolecules and Peptides with Novel Water-Soluble Dithio-Bishyrdroxymethylbisphosphine Ligands." *Abstracts of Papers of the American Chemical Society 215*, **1998**, U947, Part 1.

30. **Smith, C.J.**; Katti, K.V.; Higginbotham, C.; Volkert, W.A.; and Ketring, A.R. "*In Vivo* Studies of Tc-99m Complexes Derived From New Water-Soluble Dithio(hydroxymethyl)bisphosphines (P_2S_2)." *J. Labeled Compd. Radiopharm.*, **1997**, *40*[S1], 444.

31. Katti, K.V.; Reddy, V.S.; Sing, P.R.; Berning, D.E.; Smith, C.J.; Volkert, W.A.; and Ketring, A.R. "New Directions in the Development of Water-Soluble Phosphines and Transition Metal Compounds." *Phosphorus, Sulfur, and Silicon and the Related Elements*, **1996**, *111*(1-4), 699.

32. Smith, C.J.; Katti, K.V.; and Volkert, W.A. "Synthesis and Coordination Chemistry of New Water-Soluble Bisphosphines." *Abstracts of Papers of the American Chemical Society 212*, **1996**, 421-INOR, Part 1.

List of Presentations (Presenting Author Underlined)

Presentations at Nationally- and Internationally-held Conferences:

1. Esteves, T.; Marques, F.; Rino, J.; **Smith, C.J.**; and Santos, I.; "Trifunctional Tricarbonyl Complexes for Cell-Specific and Nuclear Targeting." The 7th International Symposium on Technetium and Other Radiometals in Chemistry and Medicine, Bressanone, Italy, September **2010**.

2. Faintuch, B.L.; Fernandez, E.; Teodoro, R.; Wiecek, D.; Agarbuio, A.; Moro, A.; and **Smith, C.J.** "^{99m}Tc-SAMA-GGG-Ahx-BBN for GRP Receptor Targeting." The Society of Nuclear Medicine 57th Annual Meeting, Lake City, Utah, June **2010**.

3. **Smith C.J.**; Nanda, P.K.; Lane, S.; Sieckman, G.L.; Hoffman, T.J.; and Rold, T.; "A Comparative Study of ^{64}Cu-NO2A-Bombesin Antagonist and Agonist Ligands." The 7th International Symposium on Technetium and Other Radiometals in Chemistry and Medicine, Bressanone, Italy, September **2010**.

4. Nanda, P.K.; Pandey, U.; Rold, T.L.; Sieckman, G.L.; Figueroa, S.D.; Ma, L.; Hoffman, T.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of ^{64}Cu-NO2A-X-BBN Antagonists as Potential Agents for Prostate Cancer Imaging." The Society of Nuclear Medicine 57th Annual Meeting, Salt Lake City, Utah, June **2010**.

5. Manuel, C.A.; Bottenus, B.N.; Schreiber, K.L.; Sieckman, G.L.; Prasanphanich, A.F.; **Smith, C.J.**; and Hoffman, T.J. "Preferential Cell Cycle Expression of the Bombesin Receptor (BB2r) in Prostate Cancer Cells." 101st Annual Meeting of the American Association for Cancer Research, Washington, D.C., April, **2010**.

6. Nanda, P.K.; and **Smith, C.J.** "A New Series of Site Specific 64Cu-Bombesin Conjugates as Human Cancer Cell Imaging Agents." 238th National Meeting of the American Chemical Society, Washington, D.C., August, **2009**.

7. Wiecek, D.; Faintuch, B.; Teodoro, R.; Fernandez, E.; and **Smith, C.** "Radiolabeling and Biodistribution Studies of the New Angiogenesis Tracer Cyclic ASn-Gly-Arg (NGR)." The Society of Nuclear Medicine 56th Annual Meeting, Toronto, Canada, June **2009**.

8. Karacay, H.; McBride, W.; Sharkey, R.; Cardillo, T.; **Smith, C.**; and Goldenberg, D. "18F Labeling of a Peptide for PET Imaging of Receptor-expressing Tumors." The Society of Nuclear Medicine 56th Annual Meeting, Toronto, Canada, June **2009**.

9. Zhai, H.; Nanda, P.; **Smith, J.**; Brown, A.; Lin, H.; Yu, P.; Sieckman, G.; Hoffman, T.; Sethi, Y.; and Ma, L. "Multifunctional Contrast Agents for Prostate Cancer Molecular Imaging." The 2009 World Molecular Imaging Congress, Montreal, Quebec, September **2009**.

10. Lane, S.; Nanda, P.; Prasanphanich, A.; Sieckman, G.; Rold, T.; Ma, L.; Figueroa, S.; Sublett, S.; Hoffman, T.; and **Smith C.** "In Vitro and In Vivo Evaluation of [64Cu-NO2A-(X)-BBN(7-14)NH2] Radiopharmaceuticals for Potential PET Imaging of Human Prostate Cancer." The 18th International Symposium on Radiopharmaceutical Sciences, Edmonton, Alberta, July **2009**.

11. Kan, P.; Engelbrecht, H.P.; Watkinson, L.D.; Carmack, T.L.; Lever, J.R.; **Smith, C.J.**; Kannan, K.V.; Katti, K.V.; Jurisson, S.S.; and Cutler, C.S. "Evaluation of Gum Arabic Stabilized Gold-198 Nanoparticles in Prostate Cancer Bearing Mice." The 18th International Symposium on Radiopharmaceutical Sciences, Edmonton, Alberta, July **2009**.

12. Retzloff, L.B.; **Smith, C.**; Hoffman, T.; Rold, T.; Sieckman, G.; and Heinzke, L. "Breast Cancer Imaging." The 7th Annual Meeting of the Society for Molecular Imaging, Nice, France, September **2008**.

13. Boote, E.; **Smith, J.**; Lever, J.; Watkinson, L.; Carmack, T.; Robertson, D.; Katti, K.; Kannan, R.; and Katti, K. "Gold Nanoparticles as a Computed Tomography Contrast Agent in SCID Mice with PC-3 Xenografts." The 7th Annual Meeting of the Society for Molecular Imaging, Nice, France, September **2008**.

14. Lane, S.R.; Prasanphanich, A.F.; Nanda, P.K.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; Jurisson, S.S.; and **Smith, C.J.** "Development of Copper-64 Bombesin Conjugates for Use as Prostate Cancer Imaging Agents." The 7th Annual Meeting of the Society for Molecular Imaging, Nice, France, September **2008**.

15. Volkert, W.A.; Hoffman, T.J.; Quinn, T.P.; and **Smith, J.** "Radiometallated SPECT Cancer Specific Imaging Radiopharmaceuticals." American Nuclear Society: 2008 Annual Meeting, Anaheim, CA, June 8-12, **2008**.

16. Lane, S.R.; Jurisson, S.S.; Prasanphanich, A.F.; Nanda, P.K.; and **Smith, C.J.** "Copper-64 Bombesin Conjugates for Prostate Cancer Imaging." Division of Nuclear Chemistry and Technology Graduate Student Symposium: The 236th National Meeting of the American Chemical Society, Philadelphia, PA, August 17-21, **2008**.

17. Kan, P.; Rahing, V.N.; Watkinson, L.D.; Carmack, T.L.: Lever, J.; **Smith, C.J.**; Loyalka, S.; Katti, K.V.; Cutler, C.S.; and Jurisson, S.S. "The Potential of Gum Arabic Stabilized Au-198 Nanoparticles (GA-AuNP) as a Radiotherapeutic Agent for Prostate Cancer." 99th Annual Meeting of the American Association for Cancer Research, Los Angeles, CA, April, **2008**.

18. Ma, L.; Brown, A.; Kujala, N.; **Smith, C.J.**; Figueroa, S.D.; Yu, P.; Hoffman, T.J.; and Volkert, W.A. "Functional Apparent Diffusion Mapping the Uptake of Tumor-Targeting Bombesin Probes in Human Breast and Prostate Cancer Xenografts." The 16th Scientific Meeting and Exhibition of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May **2008**.

19. Ma, L.; Figueroa, S.D.; Brown, A.; Smith, C.J.; Garrison, J.; Yu, P.; Hoffman, T.J.; and Volkert, W.A. "Correlation Between In Vivo Uptake of Tumor-Targeting Bombesin Probes and Apparent Diffusion Coefficient Map in Human Cancer Xenografts." The 6th Annual Meeting of the Society for Molecular Imaging, Providence, RI, August/September **2007**.

20. Prasanphanich, A.P.; Nanda, P.K.; Rold, T.L.; Hoffman, T.J.; and **Smith, C.J.** "A New Series of Stable, ^{64}Cu Labeled, Site-Directed Radiopharmaceuticals for Use as PET Imaging Agents." The Society of Nuclear Medicine 54th Annual Meeting, Washington, D.C., June **2007**.

21. Prasanphanich, A.P.; Nanda, P.K.; Rold, T.L.; Hoffman, T.J.; and **Smith, C.J.** "Evaluation of a New Series of Copper-64-NOTA-Bombesin Targeted Radiopharmaceuticals with PET Imaging Potential." 17th International Symposium on Radiopharmaceutical Sciences, Aachen, Germany, May **2007**.

22. Ma, L.; **Smith, C.J.**; and Yu, P. "Optical/MRI Multimodality Molecular Imaging." 2007 Meeting of the American Physics Society: New Frontiers in Imaging III, Denver, Colorado, March **2007**.

23. Balasubramanian, S.; Pacheco, D.; Kujala, N.G.; Yu, P.; Ma, L.; and **Smith C.J.** "Instrumentation and Calibration Method of Fluoresence Molecular Tomography for Multimodality Fusion Imaging." The 5th Annual Meeting of the Society for Molecular Imaging, Big Island, Hawaii, August/September **2006**.

24. Pacheco, D.; Kujala, N.G.; Balasubramanian, S.; Ma, L.; **Smith, C.J.**; and Yu, P. "Development of Simulated Breast Phantoms for Multimodality Imaging." The 5th Annual Meeting of the Society for Molecular Imaging, Big Island, Hawaii, August/September **2006**.

25. Ma, L.; **Smith, C.J.**; Sieckman, G.; Rold, T.L.; Hoffman, T.J.; Volkert, W.A.; and Yu, P. "Bombesin Receptor (BB2r) Targeted Fluoresence Imaging Probes." The 5th Annual Meeting of the Society for Molecular Imaging, Big Island, Hawaii, August/September **2006**.

26. Figueroa, S.D.; Winkelmann, C.; Rold, T.; Garrison, J.; **Smith, C.J.**; Volkert, W.A.; and Hoffman, T.J. "Micro-SPECT Quantification and Molecular Imaging of GRP Expressing Tumors." The 5th Annual Meeting of the Society for Molecular Imaging, Big Island, Hawaii, August/September **2006**.

27. Kunstler, J.-U.; Veerendra, B.; Sieckman, G.L.; **Smith, C.J.**; and Pietzsch, H.-J. "Novel Approaches for ^{99m}Tc Labeling of Peptides: Organometallic Tc(III) Complexes for Bombesin Labeling." The 7th International Symposium on Technetium in Chemistry and Nuclear Medicine, Bressanone, Italy, September **2006**.

28. Figueroa, S.D.; Ma, L.; Rold, T.L.; Sieckman, G.L.; **Smith, C.J.**; Garrison, J.C.; Volkert, W.A.; and Hoffman, T.J. "Oncology Molecular Imaging of GRP+ Receptor Expressing Breast Tumors with Siemens Micro-SPECT/CT Technology." The 92nd Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November **2006**.

29. Rold, T.L.; Garrison, J.C.; Sieckman, G.L.; Carter, S.N.; Bell, N.R.; **Smith, C.J.**; Cutler, C.S.; Ketring, A.R.; and Hoffman, T.J. "Targeting BB2 Receptor Expression in Prostate Cancer Using Promethium-149 Labeled Peptides." 96th Annual Meeting of the American Association for Cancer Research, Washington, D.C., April, **2006**.

30. Hoffman, T.J.; Rold, T.L.; Sieckman, G.L.; **Smith, C.J.**; Volkert, W.A.; and Perry, M.C. "BB2 Receptor Targeted Radiotherapy Combined with Chemotherapy for the Treatment of Pre-clinical Xenograft Models of Breast Cancer." 96th Annual Meeting of the American Association for Cancer Research, Washington, D.C., April, **2006**.

31. Veerendra, B; Lane, S.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Retzloff, L.; Prasanphanich, A.; Jurisson, S.S.; and **Smith C.J.** "^{99m}Tc-$(CO)_3$-DTMA (DTMA = Diethylenetriamineacetic Acid) Conjugates of Bombesin: A Novel Series of Peptide Conjugates Having Very High Affinity for the GRP Receptor Subtype 2." The 7th International Symposium on Technetium in Chemistry and Nuclear Medicine, Bressanone, Italy, September **2006**.

32. Daibes Figueroa, S.; Winkelmann, C.T.; Rold, T.L.; Sieckman, G.L.; **Smith, C.J.**; Garrison, J.C.; Ma, L.; Volkert, W.A.; and Hoffman, T.J. "TLD-100 Measurement and Assessment of Internal Mouse Dosimetry During Micro-CT Analysis." The 48th Annual Meeting of The American Association of Physicists in Medicine, Orlando, Florida, July **2006**.

33. Decristoforo, C.; Haubner, R.; Rey, A.; Kuenstler, J.U.; Pietzsch, H.J.; Correia, J.D.G.; Santos, I.; **Smith, C.J.**; Faintuch, B.; Hernandez-Gonzales, I.; and Rupprich, M. "Comparison of *In Vitro* and *In Vivo* Properties of ^{99m}Tc-RGD Peptides for Targeting Tumour Angiogenesis Labeled Using Different, Novel, ^{99m}Tc-Cores." The European Symposium of Radiopharmacy and Radiopharmaceuticals, Lucca, Italy, March **2006**.

34. Figueroa, S.D.; Winkelmann, C.T.; Rold, T.L.; Sieckman, G.L.; **Smith, C.J.**; Garrison, J.C.; Ma, L.; Volkert, W.A.; and Hoffman, T.J. "Molecular Imaging Performance and Applications of the BIC Small Animal SPECT/CT Unit." Academy of Molecular Imaging, Orlando, Florida, March **2006**.

35. Faintuch, B.L.; Stoianov, V.; Santos, R.L.S.R.; Duatti, A.; and **Smith C.J.** "Labeling of Bombesin Analogue by Asymmetrical Technetium-99m Nitrido Core." International Symposium on Trends in Radiopharmaceuticals, Vienna, Austria, November **2005**.

36. Faintuch, B.L.; Ayrosa, A.M.I.B; **Smith, C.J.**; and Castanheira, C.E. "Characterization of Lyophilized Parameters of a New Radiopharmaceutical Kit for Prostate Tumor Diagnostic." International Society of Lyophilization-Freeze Drying, Inc. Sao Paulo, Brazil, October **2005**.

37. **Smith, C.J.**; Alves, S.; Santos, I.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.; Retzloff, L.; McCrate, J.; and Prasanphanich, A. "Technetium-I Pyrazolyl Bombesin Conjugates: A Concise In Vitro/In Vivo Study." 16th International Symposium on Radiopharmaceutical Chemistry, Iowa City, IA, June **2005**.

38. Ehrhardt, G.; Moustapha, M.; **Smith, C.J.**; Szajek, L.; Eckelman, W.; and Jurisson, S. "Preparation of Cyclotron Re-186 and Comparison with Reactor Re-186 and Generator Re-188 for the Labeling of Bombesin." 16th International Symposium on Radiopharmaceutical Chemistry, Iowa City, IA, June **2005**.

39. Ma, L.; **Smith, C.J.**; Sieckman, G.L.; Volkert, W.A.; and Hoffman, T.J. "Structural Characterization of DOTA-8-AOC-Bombesin(7-14)NH2 Analogue Using Nuclear Magnetic Resonance Spectroscopy." 16th International Symposium on Radiopharmaceutical Chemistry, Iowa City, IA, June **2005**.

40. Hoffman, T.J.; Rold, T.L.; Bell, N.R.; Sieckman, G.L.; and **Smith, C.J.** "Evaluating Combination Lu-177 GRP Receptor Targeted Radiotherapy and Chemotherapy in Breast Cancer Xenograft Models." The Society of Nuclear Medicine 52nd Annual Meeting, Toronto, CA, June **2005**.

41. Johnson, C.V.; Shelton, T.D.; Greeley, M.M.; **Smith, C.J.**; and Hoffman, T.J. "GRP Receptor-targeted Radiotherapy and Combined Chemotherapy in Androgen Independent Prostate Cancer Xenografted Mice." The Society of Nuclear Medicine 51st Annual Meeting, Philadelphia, PA, USA, June **2004**.

42. Johnson, C.V.; Shelton, T.; **Smith, C.J.**; Greeley, M.; Perry, M.C.; and Hoffman, T.J. "Synergism of Combined Chemotherapy/Radiotherapy in PC-3 Prostate Tumor Xenografted Mice." 95th Annual Meeting of the American Association for Cancer Research, Orlando, Florida, March, **2004**.

43. Greeley, M.; **Smith, C.J.**; Sieckman, G.L.; Shelton, T.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Evaluation of In-111 and Tc-99m Labeled Peptides Targeting Subtypes of the Bombesin (BBN) Receptor." 38th Midwest Regional Meeting of the American Chemical Society, Columbia, MO, November 7, **2003**.

44. **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; Atkinson, L.A.; Volkert, W.A.; and Hoffman, T.J. "Design and Development of Tc-99m-Carbonyl-Bombesin Analogs: A Structure Activity Relationship Study." The Society of Nuclear Medicine 50th Annual Meeting, New Orleans, LA, USA, June 23, **2003**.

45. Hoffman, T.J.; **Smith, C.J.**; Owen, N.K.; Sieckman, G.L.; Foster, B.N.; Mazuru, D.; and Volkert, W.A. "Lu-177 Radiolabeled Peptides for Targeted Radiotherapy of Androgen Independent Prostate Cancer." 94th Annual Meeting of the American Association for Cancer Research, Toronto, Ontario, Canada, April, **2003**.

46. Papagiannopoulou, D.; Kannan, R.; Katti, K.; **Smith, C.J.**; Hoffman, T.; Owens, N.; Greeley, M.; and Jurisson, S.S. "Synthesis and Biological Evaluation of Novel ^{99m}Tc Tricarbonyl Complexes with Amine Ligands." The Society of Nuclear Medicine 49th Annual Meeting, Los Angeles, CA, USA, June, **2002**.

47. **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; Hayes, D.L.; Mazuru, D.L.; Kannan, R.; Volkert, W.A.; and Hoffman, T.J. "Radiochemical Investigations of [^{99m}Tc$(H_2O)(CO)_3$-Dpr-(X)-Bombesin(7-14)NH_2], a New Family of GRP-receptor Targeting Radiopharmaceuticals." Sixth International Symposium on Technetium in Chemistry and Nuclear Medicine, Bressanone, Italy, September, **2002**.

48. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.;Foster, B.; Mazuru, D.; and Volkert, W.A. "Preclinical Evaluation of Y-90 and Lu-177 Radiolabeled Peptides for *In Vivo* Targeted Radiotherapy of Prostate Cancer." 18th UICC (International Union Against Cancer) International Cancer Congress, Oslo, Norway, July, **2002**.

49. Gali, H.; **Smith**, **C.J.**; Hoffman, T.J.; Sieckman, G.L.; Hayes, D.L.; Owen, N.K.; and Volkert, W.A. "Influence of the Radiometal on the In Vivo Pharmacokinetic Properties of a Radiometal-labeled DOTA-conjugated Peptide." 222th National Meeting of the American Chemical Society, Chicago, IL, August, **2001**.

50. **Smith, C.J.**; Hoffman, T.J.; Hayes, D.L.; Owen, N.K.; Sieckman, G.L.; and Volkert, W.A. "Detailed Radiochemical Investigations of ^{177}Lu-DOTA-8-Aoc-BBN[7-14]NH_2: A New Gastrin Releasing Peptide Receptor (GRPr) Targeting Radiopharmaceutical." 14th International Symposium on Radiopharmaceutical Chemistry, Interlaken, Switzerland, June, **2001**.

51. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; Hayes, D.L.; and Volkert, W.A. "Development of a Diagnostic Radiopharmaceutical for Visualization of Primary and Metastatic Breast Cancer." The Society of Nuclear Medicine 48th Annual Meeting, Toronto, Canada, June, **2001**.

52. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; Hayes, D.L.; and Volkert, W.A. "^{111}In/^{90}Y Radiolabeled Peptides for Targeting Prostate Cancer: A Matched Pair Gastrin Releasing Peptide (GRP) Receptor Localizing Radiopharmaceutical." The Society of Nuclear Medicine 48th Annual Meeting, Toronto, Canada, June, **2001**.

53. Hoffman, T.J.; **Smith, C.J.**; Gali, H.; Owen, N.K.; Sieckman, G.L.; and Volkert, W.A. "*In Vitro* and *In Vivo* Evaluation of ^{111}In/^{90}Y Radiolabeled Peptides for Specific

Targeting of Tumors Expressing Gastrin Releasing Peptide (GRP) Receptors." 92nd Annual Meeting of the American Association for Cancer Research, New Orleans, LA, March, **2001**.

54. Hoffman, T.J.; **Smith, C.J.**; Sieckman, G.L.; Owen, N.K.; and Volkert, W.A. "Design, Synthesis, and Biological Evaluation of Novel Gastrin Releasing Peptide Receptor Targeting Radiopharmaceuticals." 220th National Meeting of the American Chemical Society, Washington, D.C., August, **2000**.

55. Volkert, W.A.; Gali, H.; Hoffman, T.J.; Owen, N.K.; Sieckman, G.L.; and **Smith, C.J.** "In-111 and Y-90 Labeled GRP Analogs: A Structure Activity Relationship." The International Chemical Congress of Pacific Basin Societies, Pacifachem 2000, Honolulu, HA, December, **2000**.

56. Jurisson, S.S.; Li, W.P.; Cutler, C.S.; **Smith, C.J.**; Owen, N.K.; and Hoffman, T.J. "DTPA-Octreotide Complexes with the NCA Radiolanthanides (Pm-149, Ho-166, Lu-177)." The International Chemical Congress of Pacific Basin Societies, Pacifachem 2000, Honolulu, HA, December, **2000**.

57. Li, W.P.; **Smith, C.J.**; Cutler, C.S.; Jurisson, S.; and Ketring, A.R. "Development of Receptor-Based Radiopharmaceuticals Using Carrier-Free Promethium-149: Syntheses, *In Vitro* Stability Studies, and *In Vivo* Biodistribution Studies of DTPA, DOTA, and DTPA-Octreotide Complexes." The Society of Nuclear Medicine 47th Annual Meeting, St. Louis, MO, June 6, **2000**.

58. Hoffman, T.J.; **Smith, C.J.**; Simpson, S.D.; Sieckman, G.L.; Higginbotham, C.; Jimenez, H.; Eshima, D.; Thornback, J.R.; and Volkert, W.A. "Optimizing Pharmacokinetics of Tc-99m-GRP Receptor Targeting Peptides Using Multi-Amino-Acid Linkers." The Society of Nuclear Medicine 47th Annual Meeting, St. Louis, MO, June 5, **2000**.

59. Hoffman, T.J.; **Smith, C.J.**; Simpson, S.D.; Sieckman, G.L.; Higginbotham, C.; Jimenez, H.; Eshima, D.; Thornback, J.R.; and Volkert, W.A. "Targeting Gastrin Releasing Peptide Receptor (GRP-R) Expression in Prostate and Pancreatic Cancer Using Radiolabeled GRP Agonist Peptide Vectors." The 91st Annual Meeting of the American Association for Cancer Research, San Francisco, CA, April 3, **2000**.

60. Hoffman, T.J.; Simpson, S.D.; **Smith, C.J.**; Sieckman, G.L.; Higginbotham, C.; Eshima, D.; Volkert, W.; and Thornback, J.R. "Accumulation and Retention of ^{99m}Tc-RP591 by GRP Receptor Expressing Tumors in SCID Mice." Congress of the European Association of Nuclear Medicine, Barcelona, Spain, September, **1999**.

61. Hoffman, T.J.; Simpson, S.D.; **Smith, C.J.**; Simmons, J.; Sieckman, G.L.; Higginbotham, C.; Eshima, D.; Volkert, W.; and Thornback, J.R. "Accumulation and Retention of Tc-99m RP527 By GRP Receptor Expressing Tumors in Scid Mice."

The Society of Nuclear Medicine 46th Annual Meeting, Los Angeles, CA, June 9, **1999**.

62. Ehrhardt, G.; Cutler, C.; **Smith, C.J.**; Li, W.; Ma, D; and Evans-Blumer, M. "Radiolanthanides: Production and Uses in Cancer Therapy." High Country Nuclear Medicine Conference, Vail, CO, February 28, **1999**.

63. Katti, K.V.; Berning, D.E.; **Smith, C.J.**; and Gali, H. "Construction of Water-Soluble Phosphines. New Advances in Aqueous Organometallic Chemistry." XIVth International Conference on Phosphorus Chemistry, Cincinnati, OH, July 14, **1998**.

64. **Smith, C.J.**; Higginbotham, C.; Katti, K.V.; and Volkert, W.A. "Rhodium-105 Complexes of Polydentate, Aqueous-Soluble, Phosphine Ligands: New Radiochemical Developments Towards Radioimmunotherapy." XIVth International Conference on Phosphorus Chemistry, Cincinnati, OH, July 15, **1998**.

65. **Smith, C.J.**; Hoffman, T.J.; Higginbotham, C.; Wong, E.; Eshima, D.; Thornback, J.; and Volkert, W.A. "Evaluation of a Novel N_3S Chelation System for the Preparation of Tc-99m and Re-188 Labeled Biomolecules." The Society of Nuclear Medicine 45th Annual Meeting, Toronto, Canada, June 10, **1998**.

66. Schibli, R.; Karra, S.R.; Gali, H.; Katti, K.V.; Higginbotham, C.; **Smith, C.J.**; Hoffman, T.J.; and Volkert, W.A. "Conjugation of Small Biomolecules and Peptides with a Novel Water-Soluble Dithio-Bishydroxymethylbisphosphine Ligand." 215th National Meeting of the American Chemical Society, Dallas, TX, March 31, **1998**.

67. **Smith, C.J.**; Katti, K.V.; Higginbotham, C.; Volkert, W.A.; and Ketring, A.R. "*In Vivo* Studies of Tc-99m Complexes Derived From New Water-Soluble Dithio(hydroxymethyl)bisphosphines (P_2S_2)." 12th International Symposium on Radiopharmaceutical Chemistry, Uppsula, Sweden, June 17, **1997**.

68. Katti, K.V.; **Smith, C.J.**; Berning, D.E.; Reddy, V.S.; Karra, S.R.; and Volkert, W.A. "Synthesis and Chemical Characterization of ^{99m}Tc and Re Complexes with Multidentate (Hydroxymethyl)phosphine (HMP) Ligands." 10th International Symposium on Radiopharmacology, Milan, Italy, May 19, **1997**.

69. **Smith, C.J.**; Katti, K.V.; and Volkert, W.A. "Synthesis and Structural Characterization of Water-Soluble Dithio-Bisphosphine Rhenium (V) Complexes." 29th Central Regional Meeting of the American Chemical Society, Midland, MI, May 29, **1997**.

70. Karra, S. R.; Katti, K. V.; **Smith, C. J.**; Reddy, V. S.; and Volkert, W. A. "Development of Water-Soluble Diamide-Diphosphine Ligands." 212th National Meeting of the American Chemical Society, Orlando, FL, August 27, **1996**.

71. **Smith, C. J.**; Katti, K. V.; and Volkert, W. A. "Synthesis and Coordination Chemistry of New Water-Soluble Bisphosphines." 212th National Meeting of the American Chemical Society, Orlando, FL, August 27, **1996**.

72. Katti, K.V.; Reddy, S.V.; Singh, P.R.; Berning, D.E.; **Smith, C. J.**; Volkert, W.A.; and Ketring, A.R. "New Directions in the Development of Water-Soluble Phosphines and Transition Metal Compounds." XIIIth International Conference on Phosphorus Chemistry-ICPC, Jerusalem, Israel, July, **1995**.

73. **Smith, C. J.**; Conkright, T.L.; and Jurisson, S.S. "Radiosynthesis and Characterization of a ^{99m}Technetium - α - Melanotropin Stimulating Hormone Analogue: A Potential Radiolabel for the α-Melanocyte." 29th Midwest Regional Meeting of the American Chemical Society, Kansas City, MO, November 3, **1994**.

List of Invited Lectures or Presentations:

1. **Smith, C.J.** "E Pluribus Unum." Risco High School Senior Graduating Class of 2009 Commencement Exercise, Risco, Missouri, May 17, **2009**.

2. **Smith, C.J.** "Metallated Peptide Conjugates for Specific Targeting of Human Cancers." University of Missouri Department of Chemistry Dynamite Seminar Series, Columbia, Missouri, February 10, **2009**.

3. Lewis, M.R.; Prasanphanich, A.F.; Retzloff, L.; Lane, S.R.; Nanda, P.R.; Sieckman, G.L.; Rold, T.L.; Ma, L.; Figueroa, S.D.; Sublett, S.V.; Hoffman, T.J.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of [^{64}Cu-NOTA-8-Aoc-BBN(7-14)NH_2] Radiopharmaceutical for PET Imaging of Human Breast and Prostate Cancer Tumors." Eighth International Conference of Anticancer Research, Kos, Greece, October 17-22, **2008**.

4. Heinzke, L..; Retzloff, L.; Lane, S.; Prasanphanich, A.; Sieckman, G.; Rold, T.; Hoffman, T.; and **Smith, C.** "^{99m}Tc-DPR-SSS-BBN for Diagnosis of Human Cancers." Undergraduate Research Day at the Capitol, Jefferson City, MO, April **2008**.

5. Prasanphanich, A.; Nanda, P.K.; Rold, T.L.; Ma, L.; Hoffman, T.J.; Sieckman, G.L.; Figueroa, S.D.; and **Smith, C.J.** "Development of Highly Specific Radiopharmaceutical & Molecular Imaging Agents for Diagnosis of Human Cancers." Council on Undergraduate Research Posters on Capitol Hill, Washington, D.C., April 25, **2007**.

6. Prasanphanich, A.P.; and **Smith, C.J.** "Development of Tumor-targeting Agents for Diagnosis of Human Cancers." Undergraduate Research Day at the Capitol, Jefferson City, MO, April **2007**.

7. **Smith, C.J.** "Molecular Imaging of Gastrin Releasing Peptide Receptor Expressing Tumors: The Missouri Experience." Recent Advances in Molecular Imaging: A Special Symposium of the 232nd National Meeting of the American Chemical Society, San Francisco, CA, September 10-14, **2006**.

8. **Smith, C.J.** "Radiolabeled Tc(III) and Tc(I) Bioconjugates for Targeting Specific Human Cancers." 3rd Co-ordination Meeting on "Development of ^{99m}Tc-based Small Biomolecules Using Novel ^{99m}Tc Cores." The International Atomic Energy Agency, Budapest, Hungary, May 16, **2006**.

9. **Smith, C.J.** "Low-Valent Tc/Re(I) Bioconjugates for Targeting Prostate Cancer". Saint Louis University, March 3, **2006**.

10. **Smith, C.J.** "Non-traditional Radiolabeling Methods for Production of Technetium-based Conjugates: A Concise *In Vitro* and *In Vivo* Study." Instituto Tecnologico E Nuclear, Savacem/Lisbon, Portugal, November 28, **2005**.

11. **Smith, C.J.** "Advanced Aspects of Tricarbonyl Approaches." European Cooperation in the Field of Scientific and Technical Research (COST Action B12: Radiotracers for In Vivo Assessment), Lisbon, Portugal, May 22, **2004**.

12. **Smith, C.J.** "Approaches for the Labeling of Peptides with Tc-99m." Society of Nuclear Medicine 51st Annual Meeting, Philadelphia, PA, USA, June 19, **2004**.

13. **Smith, C.J.** "Radiolabeling of Receptor-Specific Peptides: The Missouri Experience." 2nd Co-ordination Meeting on "Development of ^{99m}Tc-based Small Biomolecules Using Novel ^{99m}Tc Cores." The International Atomic Energy Agency, Vienna, Austria, November 16, **2004**.

14. **Smith, C.J.** "Radiolabeling Strategies for the Design and Development of Receptor-Specific Radiopharmaceuticals Targeting the GRP Receptor." 1st Co-ordination Meeting on "Development of ^{99m}Tc-based Small Biomolecules Using Novel ^{99m}Tc Cores." The International Atomic Energy Agency, Ferrara, Italy, May 7, **2003**.

15. **Smith, C.J.** "Technetium(I) Labeling of Bombesin." A Consultant's Meeting on "Recent Advances in ^{99m}Tc Labeling of Small Molecules Using Novel ^{99m}Tc Cores." The International Atomic Energy Agency, Zurich, Switzerland, May 16, **2002**.

List of Presentations at the University of Missouri or the Harry S. Truman Memorial Veterans' Hospital:

1. Nanda, P.K.; Pandey, U.; Bottenus, B.N.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of ^{64}Cu Bombesin Antagonists as Potential Agents for Prostate Cancer Imaging." United States Department of Veterans' Affairs Research Day, Columbia, MO, May, **2010**.

2. Nanda, P.K.; Pandey, U.; Bottenus, B.N.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.; and **Smith, C.J.** "In Vitro and In Vivo Evaluation of ^{64}Cu Bombesin Antagonists as Potential Agents for Prostate Cancer Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 12-15, **2010**.

3. Hujala, N.; **Smith, C.J.**; Sieckman, G.L.; Hoffman, T.J.; Volkert, W.; Ma, L.; and Yu, P. "Frequency Domain Fluorescent Molecular Tomographic System for Small Animal Imaging Using a Near-infrared Fluorescent Probe." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2009**.

4. Zhai, H.; Nanda, P.; **Smith, J.**; Lin H.; Yu, P.; Sieckman, G.; Hoffman, T.; Sethi, Y.; and Ma, L. "Multifunctional Optical/MRI Contrast Agents for Prostate Cancer Molecular Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2009**.

5. Zhai, H.; Prasanphanich, A.; Smith, C.J.; Kujula, N.; Sieckman, G.; Hoffman, T.J.; Volkert, W.A.; and Ma, L. "Multifunctional MRI Contrast Agents Based On Super Paramagnetic Iron Oxide Nanoparticles." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November , **2008**.

6. Lane, S.R.; Jurisson, S.S.; and Smith, C.J. "Development of Copper-64 Bombesin Conjugates for Use as Prostate Cancer Imaging Agents." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November , **2008**.

7. Retzloff, L.; and Smith, C.J. "A Novel Series of 99mTc-Bombesin Conjugates for Diagnostic Imaging of Breast Carcinoma." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November, **2008**.

8. Strattman, M.; and Smith, C.J. "Investigation of a Dual Modality Radiolabeled Bioconjugate for Human Cancer Imaging." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November, **2008**.

9. Ma, L.; Morgan, B.; Brown, A.; Sublett, S.; Kujala, N.; Zhai, H.; **Smith, C.J.**; Figueroa, S.D.; Yu, P.; Hoffman, T.J.; and Volkert, W.A. "Functional Apparent Diffusion Coefficient Mapping of Uptake of Tumor-targeting Bombesin Agents in Human Breast and Prostate Cancer Xenografts." United States Department of Veterans' Affairs Research Day, Columbia, MO, May 23, **2008**.

10. Liu, D.; Overbey, D.; Watkinson, L.; Sieckman, G.; Figueroa, S.D.; Hoffman, T.J.; **Smith, C.J.**; Forte, L.R.; Volkert, W.A.; and Giblin, M.F. "In Vivo Imaging of GC-C Expression." United States Department of Veterans' Affairs Research Day, Columbia, MO, May 16, **2008**.

11. Kujala, N.; Zhai, H.; **Smith, C.J.**; Sieckman, G.L.; Hoffman, T.J.; Volkert, W.; Ma, L.; and Yu, P. "A New Near-infrared Fluorescent Bombesin Conjugate Extended to

Wavelength 750nm." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2008**.

12. Kan, P.; Rahing, V.N.; Watkinson, L.D.; Lever, J.; **Smith, C.J.**; Loyalka, S.K.; Katti, K.V.; Katti, K.K.; Cutler, C.S.; and Jurisson, S. S. "The Potential of Gum Arabic Stabilized Au-198 Nanoparticles (GA-AuNP) as a Radiotherapeutic Agent for Prostate Cancer." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2008**.

13. Lane, S.R.; Prasanphanich, A.F.; Nanda, P.K.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; Jurisson, S.S.; and **Smith, C.J.** "Copper-64 Bombesin Conjugates for Potential Prostate Cancer Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2008**.

14. Boote, E.; **Smith, J.**; Lever, J.; Watkinson, L.; Carmack, T.; Robertson, D.; Katti, K.; Kannan, R.; and Katti, K. "Gold Nanoparticles as a Computed Tomography Contrast Agent in SCID Mice with PC-3 Xenografts." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 14-16, **2008**.

15. Prasanphanich, A.; and **Smith, C.J.** "*In Vitro* and *In Vivo* Analysis of ^{64}Cu-NOTA-8-Aoc-BBN PET Imaging Bioconjugate for Human Breast Cancer." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2007**.

16. Heinzke, L.; and **Smith, C.J.** "Investigation of Gastrin Releasing Peptide Receptor-Specific ^{99m}Tc Conjugates." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2007**.

17. **Smith, C.J.** "Molecular Imaging of Gastrin Releasing Peptide Receptor-Expressing Tumors." The Harry S. Truman Memorial Veterans' Hospital Research Seminar Series, Columbia, MO, July 10, **2007**.

18. Heinzke, L.; Prasanphanich, A.; Lane, S.; Retzloff, L.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; and Smith, C.J. "*In Vitro/In Vivo* Assessment of Novel ^{99m}Tc-Bombesin Conjugates in Human Cancer Tissue." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 16-20, **2007**.

19. Prasanphanich, A.F.; Ma, L.; Yu, P.; Rold, T.L.; Hoffman, T.J.; Figueroa, S.D.; Sieckman, G.L.; and **Smith, C.J.** "Imaging of Human Breast and Prostate Cancer Xenografts Using Bombesin-based Molecular Imaging Probes." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 16-20, **2007**.

20. Prasanphanich, A.F.; Nanda, P.K.; Rold, T.L.; Hoffman, T.J.; and **Smith, C.J.** "Evaluation of a New Series of Copper-64-NOTA-Bombesin Targeted Radiopharmaceuticals with PET Imaging Potential." Spring Forum on Undergraduate Research, Columbia, MO, April 30, **2007**.

21. Pacheco, D.; Ma, L.; **Smith, C.**; Hoffman, T.; and Yu, P. "Development of Tissue Phantoms for Multimodality Optical/MRI Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 16-20, **2007**.

22. Figueroa, S.D.; Garrison, J.C.; Rold, T.L.; Sieckman, G.L.; Ma, L.; **Smith, C.J.**; Volkert, W.A.; and Hoffman, T.J. "Functional SPECT Tumor Imaging of GRP Receptor Expression." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 16-20, **2007**.

23. Heinzke, L.; Prasanphanich, A.; Lane, S.; Retzloff, L.; Rold, T.L.; Sieckman, G.L.; Hoffman, T.J.; and Smith, C.J. "*In Vitro/In Vivo* Assessment of Novel ^{99m}Tc-Bombesin Conjugates in Human Cancer Tissue." Spring Forum on Undergraduate Research, Columbia, MO, April 30, **2007**.

24. Prasanphanich, A.; and **Smith, C.J.** "Initial Evaluation of a New Series of Copper-64-NOTA-Bombesin Targeted Radiopharmaceuticals with PET Imaging Potential." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2006**.

25. Figueroa, S.D.; Garrison, J.C.; Rold, T. L.; Sieckman, G.L.; Ma, L.; **Smith, C.J.**; Volkert, W.A.; and Hoffman, T.J. "MicroSPECT Quantification and Molecular Imaging of GRP Expressing Tumors." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2006**.

26. Prasanphanich, A.; and **Smith, C.J.** "Synthesis and Characterization of Bombesin Derivatives with Potential Application as Nuclear Medicine Imaging/Therapeutic Agents." University of Missouri-Columbia: 2006 MU Summer Undergraduate Research and Creative Achievements Forum, Columbia, MO, August 3, **2006**.

27. Balasubramanian, S.; Kujala, N.G.; Pacheco, D.; Yu, P.; Ma, L.; and **Smith, C.J.** "Designing a Frequency Domain Heterodyne System for 3D Diffused Photon Fluorescence Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006**.

28. Rold, T.L.; Garrison, J.C.; Sieckman, G.L.; Carter, S.N.; Bell, N.R.; **Smith, C.J.**; Cutler, C.S.; Ketring, A.R.; and Hoffman, T.J. "Targeting BB2 Receptor Expression in Prostate Cancer Using Promethium-149 Labeled Peptides." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006**.

29. Hoffman, T.J.; Rold, T.L.; Sieckman, G.L.; **Smith, C.J.**; Volkert, W.A.; and Perry, M.C. "BB2 Receptor Targeted Radiotherapy Combined with Chemotherapy for the Treatment of Pre-clinical Xenograft Models of Breast Cancer." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006**.

30. Figueroa, S.D.; Ma, L.; Rold, T. L.; Sieckman, G.L.; **Smith, C.J.**; Garrison, J.C.; Volkert, W.A.; and Hoffman, T.J. "*In Vivo* Molecular and Anatomical Fused

Modality Imaging for Radiotracer Localization of Bombesin BB2 Receptor Expressing Tumors." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006**.

31. Yu, P.; Ma, L.; and **Smith C.J.** "Development of 3D Fluorescence Molecular Tomography for Fusion Imaging." A Report to the NIH External Advisory Committee for P50 Developmental Project #4. The University of Missouri-Columbia, Columbia, MO, March 15, **2006**.

32. Veerendra, B.; Prasanphanich, A.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.L.; Matson, G.; Retzloff, L.; McCrate, J.; and **Smith, C.J.** "Synthesis, Radiolabeling and *In Vitro* GRP Receptor Targeting Studies of ^{99m}Tc-TRIAZA-X-BBN[7-14]NH_2 (X = Serylserylserine, Glycylglycylglycine, Glycylserylglycine, or Beta Alanine)." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2005**.

33. Prasanphanich, A.; Veerendra, B.; Sieckman, G.L.; Hoffman, T.J.; Rold, T.L.; Matson, G.; Retzloff, L.; McCrate, J.; and **Smith C.J.** "Radiochemical Investigations of a New Series of GRP Receptor Targeting Radiopharmaceuticals." University of Missouri-Columbia Health Sciences Research Day, Columbia, MO, November 10, **2005**.

34. Figueroa, S.D.; Winkelmann, C.T.; Rold, T. L.; Sieckman, G.L.; **Smith, C.J.**; and Hoffman, T.J. "Characterization of a Dual Head Pinhole SPECT/CT with Sub-millimeter Resolution for laboratory Animal Molecular Imaging." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 11-14, **2005**.

35. Ma, L.; **Smith, C.J.;** Sieckman, G.L.; Volkert, W.A.; and Hoffman, T.J. "Structural Characterization of DOTA-8-AOC-Bombesin(7-14)NH_2: A Case Study of Tumor Targeting Diagnostic/Therapeutic Analogues Using NMR Spectroscopy." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 11-14, **2005**.

36. Retzloff, L.; Alves, S.; Santos, I.; Hoffman, T.J.; Sieckman, G.L.; Rold, T.; Prasanphanich, A.; McCrate, J.; and **Smith, C.J.** "Technetium(I) Pyrazolyl Conjugates of Bombesin: A potentially New Radiotracer for Targeting of the Gastrin Releasing Peptide Receptor." University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 11-14, **2005**.

37. **Smith, C.J.** "Non-traditional Radiolabeling Methods for Production of Technetium-based Conjugates: A Concise *In Vitro* and *In Vivo* Study." The Harry S. Truman Memorial Veterans' Hospital Research Seminar Series, Columbia, MO, January 11, **2005**.

38. **Smith, C.J.** "Non-traditional Radiolabeling Methods for Production of Technetium-based Conjugates: A Concise *In Vitro* and *In Vivo* Study." A Presentation to the

Department of Medical Physiology and Pharmacology, University of Missouri-Columbia, Columbia, MO, March 7, **2005**.

II. TEACHING

Teaching/Training of Undergraduate Students:

Ms. Lauren Retzloff:
Mentorship Role: Research Mentor (2004)
B.S. in Biology, University of Missouri-Columbia.

Mr. Adam Prasanphanich:
Mentorship Role: Research Mentor (2004-2008)
B.S. in Chemistry and Mathematics, University of Missouri-Columbia.
Life Sciences Undergraduate Research Opportunity Program Scholar and Research Ambassador for the University of Missouri-Columbia System.
LSUROP Thesis Title: "In Vitro/In Vivo Assessment of New ^{64}Cu-Bombesin Conjugates in Human Breast Cancer Tissue."

Mr. Joseph McCrate:
Mentorship Role: Research Mentor (2004/2005)
B.S. in Chemical Engineering, University of Missouri-Columbia.

Ms. Gretchen Matson:
Mentorship Role: Research Mentor (2005)
B.S. Student of Biology, University of Missouri-Columbia.

Ms. Lauren Lynn Heinzke:
Mentorship Role: Research Mentor (2006-2008)
B.S. in Chemistry and Biology, University of Missouri-Columbia.
Life Sciences Undergraduate Research Opportunity Program Scholar
LSUROP Thesis Title: "^{99m}Tc-DPR-SSS-BBN for Diagnosis of Human Cancers."

Mr. Nicholas Messina
Mentorship Role: Research Mentor (2007)
B.S. Student of Nuclear Medicine Technology, University of Missouri-Columbia.

Mr. Richard Copithorne
Mentorship Role: Research Mentor (2007)
B.S. Student of Nuclear Medicine Technology, University of Missouri-Columbia.

Ms. Anita Heinzke:
Mentorship Role: Research Mentor (2007)
B.S. Student of Chemical Engineering, University of Missouri-Rolla.

Ms. Monica Strattman:
Mentorship Role: Research Mentor (2008)
B.S. Student of Chemistry and Russian, University of Missouri-Columbia.

Ms. Jamine Cooper:
Mentorship Role: Research Mentor (2010)
B.S. Student of Biology, University of Missouri-Columbia.

Mr. Christopher Faron:
Mentorship Role: Research Mentor (2010)
B.S. Student of Biology, University of Missouri-Columbia.

Teaching/Training of Graduate Students:

Mr. Moustapha Moustapha:
Mentorship Role: M.S. Committee Member and Co-advisor
Masters of Science in Chemistry, University of Missouri-Columbia Department of Chemistry, August 2004.
Master's Thesis Advisor: Professor Silvia Jurisson, Chemistry
Thesis Title: "A Comparative Study Between No-carrier Added Re-186, Carrier-added Re-186, and No-carrier Added Re-188 for Radiolabeling N_3S-5-Ava-BBBN(7-14)NH_2."

Dr. Susana Alves:
Mentorship Role: Ph.D. Committee Member and Primary Juror of Dissertation Defense
Visiting Scholar Program, University of Missouri-Columbia
Ph.D. in Pharmacy Department, Instituto Tecnologico e Nuclear, Estrada Nacional 10, Apartado 21, POR-2686953 Sacavem, Portugal.
Ph.D. Dissertation Advisor: Professor Isabel Santos.
Dissertation Title: "Complexos com a Unidade *fac*-$[^{99m}Tc(CO)_3]^+$ para o Desenvolvimento de Radiofarmacos Especificos para Receptores de Peptidos."
Visiting Scholar Project at the University of Missouri-Columbia: *In Vitro* and *In Vivo* Evaluation of [$^{99m}Tc(CO)_3$-Cyclo[Arg-Gly-Asp-D-Tyr-Lys(PZ1)]] and [$^{99m}Tc(CO)_3$-Cyclo[BBN(7-14)NH_2]].

Dr. Stephanie Renee Lane:
Mentorship Role: Ph.D. Committee Member and Co-advisor
Ph.D. Student in Chemistry, University of Missouri-Columbia Department of Chemistry, August 2004-December 2009.
Ph.D. Dissertation Advisor: Professor Silvia Jurisson, Chemistry
Dissertation Title: ReV and ReIII Sal_2phen Complex Formation from Triphenylphosphine Addition and Prostate Cancer Imaging and Therapy Agents: ^{99m}Tc(CO)3-DTMA-, ^{64}Cu-NOTA-, and Bi-CHX-A″-Bombesin.

Dr. Lauren Retzloff:
Mentorship Role: Ph.D. Committee Member and Co-advisor
Ph.D. Student in Medical Pharmacology and Physiology, University of Missouri-Columbia School of Medicine, August 2005-September 2009.
Ph.D. Dissertation Advisor: Professor Leonard Forte, Medical Pharmacology and Physiology

Dissertation Title: "Design, Synthesis, and Evaluation of Radiolabeled Bombesin Conjugates for the Diagnosis of Breast Cancer."

Mr. Ethan Balkin:
Mentorship Role: Ph.D. Committee Member
Ph.D. Student in Pathobiology, University of Missouri-Columbia School of Veterinary Medicine, August 2006-.
Ph.D. Dissertation Advisor: Professor Michael Lewis, Veterinary Medicine
Dissertation Title: TBD

Ms. Teresa Esteves:
Mentorship Role: Ph.D. Committee Member and Primary Juror of Dissertation Defense
Visiting Scholar Program, University of Missouri-Columbia
Ph.D. in Pharmacy Department, Instituto Tecnologico e Nuclear, Estrada Nacional 10, Apartado 21, POR-2686953 Sacavem, Portugal.
Ph.D. Dissertation Advisor: Professor Isabel Santos.
Dissertation Title: TBD
Visiting Scholar Project at the University of Missouri-Columbia: Evaluation of New ^{99m}Tc-BBN Analogues for and Evaluation in Prostate Cancer Models.

Teaching/Training of Post-Doctoral Fellows:

Dr. Veerendra Bhadrasetty:
Mentorship Role: Post-doctoral Research Advisor
Master of Science in Chemistry, Gulberga University, Gulberga, India 1999.
Ph.D. in Organic Chemistry, Manglore University, Manglore, India 2003.
Ph.D. Advisor: Professor Shivarama Holla.
Thesis Title: Synthetic Studies of Some Simple and Bis-Heterocycles: Their Characterization and Applications.
Project Title: Design and Development of Specific Bifunctional Chelating Ligands for Tc(I)/Re(I).

Dr. Jens-Uwe Kuenstler:
Mentorship Role: Visiting Scholar and Post-doctoral Research Advisor
Visiting Scholar Program, University of Missouri-Columbia
Ph.D. in Chemistry, Forschungszentrum Rossendorf (FZR), Institute of Bioinorganic and Radiopharmaceutical Chemistry, Dresden, Germany 2004.
Ph.D. Advisor: Hans-Jurgen Pietzsch.
Thesis Title: Beitrag zur Praeparation und Charakterisierung Technetiummarkierter Antikoerper und Peptide
Project Title: *In Vitro* and *In Vivo* Evaluation of [^{99m}Tc(4+1)-[BBN(7-14)NH_2]-Conjugates].

Dr. Prasant Kumar Nanda:
Mentorship Role: Post-doctoral Research Advisor

Master of Science in Chemistry (Advanced Inorganic Chemistry Specialization), Utkal University, Orissa, India 1999.
Ph.D. in Chemistry, Indian Institute of Technology, Kharagpur, India 2006.
Ph.D. Advisor: Professor Debashis Ray.
Thesis Title: Studies on the Coordination Chemistry of 3d Transition Elements with Multidentate Ligands: Mono-, Di-, and Tetranuclear Complexes.
Project Title: Transition Metal Complexes of Polydentate, Main-group Ligands.

Dr. Usha Saket Padney:
Mentorship Role: Post-doctoral Research Advisor
Master of Science in Chemistry, University of Madras, Tamil Nadu, India 1996.
Ph.D. in Applied Biology, Mumbai University, February 2008
Ph.D. Advisor: Professor Meera Venkatesh, Radiopharmaceuticals Division, Bhabha Atomic Research Centre, Trombay, Mumbai, India 400 085.
Thesis Title: Preparation and Bioevaluation of Therapeutic Radiopharmaceuticals.
Project Title: New Radiopharmaceuticals Based Upon Tc(I)/Re(I)/Cu(II) Bombesin Targeting Vectors.

Dr. Pablo Cabral Gonzalez:
Mentorship Role: Post-doctoral Research Advisor
Master of Science in Chemistry, Universidad de la Republica Uruguay
Ph.D. Candidate in Chemistry, Universidad de la Republica Uruguay
Ph.D. Advisor: Heni A. Baler
Thesis Title: TBD
Project Title: Melanoma Imaging/Therapy via New Peptide Conjugates.

Teaching/Training of Radiology Residents:

Richard Chen, M.D.:
Teaching/Training Session: The Technetium-99m Generator System: Elution, Quality Control, and Radiopharmaceutical Preparation.

Classroom/Course Teaching at the University of Missouri:

Problems in Radiology (Independent Teaching)
Function: Course Coordinator and Instructor
Design: This Course is an Independent Learning Type of Course Offered through Radiology
Years Taught: Spring **2009**
Course Title: RADIOL 8085-01

Radiopharmaceuticals in Nuclear Medicine:
Function: Course Coordinator and Instructor

Design: This Course is Team Taught by Drs. Wynn Volkert, Timothy Hoffman, and Jeff Smith
Years Taught: Fall **2005**, Fall **2006**, Fall **2007**, Fall **2008**, Fall **2009**
Course Title: NUCMED 4329/7329

Problem Based Learning Program, M2 Medical Students:
Function: PBL Tutor
Design: This Course is Team Taught by Drs. Robert Churchill and Jeff Smith
Years Taught: Spring **2006**, Spring **2007**, Spring **2008**
Course Title: Pathophysiology 4, Block 8

Problem Based Learning Program, M2 Medical Students:
Function: PBL Tutor
Design: This Course is Taught by Jeff Smith
Years Taught: Spring **2009**, Spring **2011**
Course Title: Pathophysiology 4, Block 8

Radiology Resident Physician Training
Function: Course Instructor
Design: This course is co-ordinated by Dr. Jeff Smith in Preparation of Residents for Board Examinations.
Years Taught: August **2006**, February **2007**, January **2010**
Course Title: Tc-99m Radiolabeling of Small Molecules: The Tc-99m Generator and Specific Radiolabeling Techniques

Undergraduate Research in Chemistry
Function: Research Mentor
Design: Laboratory Research Training During the Semester
Year Taught: Summer **2006**
Course Title: CHEM 4950

Undergraduate Research in Nuclear Medicine Technology
Function: Research Mentor
Design: Laboratory Research Training During the Semester
Year Taught: Spring **2007**
Course Title: NUCMED 4085, Problems in Nuclear Medicine

Training Programs for Higher Education:

New Faculty Teaching Scholars Program
Monthly Meetings: **2005/2006**.

Course Design Retreat Conference
October 6-8, **2005**
Tan-Tar-A Resort, Lake of the Ozarks

Teaching Renewal Conference
February 23-25, **2006**
Memorial Union, University of Missouri-Columbia Campus

Building Your Academic Portfolio
September 28-30, **2006**
Lodge of the Four Seasons, Lake of the Ozarks

Teaching Renewal Conference
February 22-23, **2007**
Reynolds Alumni Center, University of Missouri-Columbia Campus

III. SERVICE and OUTREACH

Professional and Honorary Societies:

American Chemical Society, Member 1995-present
The Society of Nuclear Medicine, Member 1998-present
International Consultant to the IAEA, 2002-2006
The International Society of Radiopharmaceutical Chemistry and Biology, 2002-present
International Association of Radiopharmacology, 2005-present
Radiopharmaceutical Sciences Council, The Society of Nuclear Medicine, 2008-present
Editorial Boards (2004-):

- *Journal of Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Compounds*
- *World Journal of Radiology*
- *World Journal of Gastrointestinal Pharmacology and Therapeutics*

Professional Reviews (Grants, Manuscripts, Presentations):

Reviewer of Grants: American Cancer Society, **2004-2005**
Reviewer of Grants: National Institute of Allergy and Infectious Disease, National Institutes of Health, **2006**.
Reviewer of Grants: European Cooperation in the Field of Scientific Research, COST, **2008**.
Reviewer of Grants: VISN 15 Awards, **2008**.
Reviewer of Grants: Children's Miracle Network Application, University of Missouri-Columbia, **2005, 2006, 2007**.
Reviewer of Grants: Summer Fellowship Opportunities, University of Missouri-Columbia School of Medicine, **2005, 2006, 2007**.
Reviewer of Grants: Research Board Grants, University of Missouri System, **2005**
Reviewer of Posters: University of Missouri-Columbia Health Sciences Research Day, November **2004**, **2005, 2006**.
Reviewer of Posters: Systems Biology, Modeling, and Technology Development Symposia at University of Missouri-Columbia Life Sciences Week, Columbia, MO, April 17-21, **2006, 2008**.
Reviewer of Manuscripts:

- *Inorganic Chemistry*
- *Journal of Pharmacy and Pharmacology*
- *Journal of Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Compounds*
- *Journal of the American Chemical Society*
- *Journal of Labeled Compounds and Radiopharmaceuticals*
- *Journal of Organometallic Chemistry*
- *Medicinal Research Reviews*
- *Bioconjugate Chemistry*

- *Cellular and Molecular Biology*
- *Accounts of Chemical Research*
- *Molecular Imaging*
- *European Journal of Nuclear Medicine*
- *Nuclear Medicine & Biology*
- *Applied Radiation and Isotopes*
- *Regulatory Peptides*
- *Chemical Reviews*
- *Journal of the Royal Society of Chemistry, Dalton Transactions*
- *Journal of the Royal Society of Chemistry, Chemical Communications*
- *International Journal of Cancer*
- *Journal of Nuclear Medicine*
- *Current Organic Synthesis*

Professional Committees and Programs (University of Missouri and HSTMVH):

2010-present	Faculty Mentor, Mizzou Archery
2009-present	Member, Subcommittee for Research Safety, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2007-present	Radiation Safety Committee (RSC), United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2007-present	Research and Development Committee, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2006-present	Radiation Safety Committee (RSC), University of Missouri-Columbia, Radiopharmaceuticals Research Program, University of Missouri-Columbia Research Reactor Facility, Columbia, MO 65211
2004-present	Subcommittee for Isotope Use (IUS), University of Missouri-Columbia, Radiopharmaceuticals Research Program, University of Missouri-Columbia Research Reactor Facility, Columbia, MO 65211
2004-present	Member of University of Missouri Graduate Faculty, University of Missouri-Columbia, Columbia, MO 65211
2004-present	Member of University of Missouri Doctoral Faculty, University of Missouri-Columbia, Columbia, MO 65211
2009	Ex-officio Member, Subcommittee for Research Safety, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2007	Position Search Committee, *Ex Officio* Member, Department of Veterinary Medicine and Surgery, University of Missouri-Columbia, Columbia, MO 65211

2006-2007 Director, HSTMVH Research Service Research Seminar Series
2005-2006 New Faculty Teaching Scholars Program, University of Missouri-Columbia, Columbia, MO 65211
2005 Position Search Committee, Committee Member, Department of Radiology, University of Missouri-Columbia, Columbia, MO 65211
2005-2008 Student Fee Capital Improvements Committee, University of Missouri-Columbia, Columbia, MO 65211
2004-2008 Subcommittee for Animal Studies, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2004-2007 Research Council, University of Missouri-Columbia School of Medicine, Columbia, MO 65211
2004-2006 Associate Chief of Staff's Advisory Committee, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201

Service to The United States of America:

2010-present Research Health Scientist Appointment (Grade 14, Step 4), United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2002-2006 Ambassador of the United States of America to the International Atomic Energy Agency, Vienna, Austria
2005-2010 Research Scientist Appointment (Grade 13, Step 7), United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2003-2005 Research Scientist WOC Appointment, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
2000-2003 Research Chemist WOC Appointment, United States Department of Veterans Affairs, Harry S. Truman Memorial Veterans' Hospital, Columbia, MO 65201
1992-present Disabled American Veteran
1992 Honorable Discharge, United States Army Reserve
1990-1992 United States Army Reserve

Service to Columbia, Missouri Affiliations:

2005-2006 Chairperson to the Board of Trustees, Trinity Lutheran Church
2004-2006 President, Barclay Ridge Homeowners Association
2003-2004 Vice-President, Barclay Ridge Homeowners Association
2003-2005 Member of the Board of Trustees, Trinity Lutheran Church
2004-2005 Board of Directors, Trinity Lutheran Church