

# Jianfeng Cai

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## **EDUCATION**

- **Postdoctoral Associate**, Bioorganic Chemistry, **Yale University**, **2007-2009**  
Advisor: **Professor Andrew D. Hamilton**
- **PhD**, Bioorganic Chemistry, **Washington University in St. Louis**, **2006**  
Advisor: **Professor John-Stephen Taylor**  
Thesis Title: *Design and Synthesis of Nucleic Acid Templated and Targeted Drugs and Probes*
- **MS**, **Nanjing University**, **China**, **2000**
- **BS**, **Nanjing University**, **China**, **1997**

## **POSITIONS AND EMPLOYMENT**

- 2007-2009 Postdoctoral Associate, Yale University, New Haven, CT
- 2009-2015 Assistant Professor, University of South Florida, Tampa, FL
- 2009-present Member, Drug Discovery Program, Moffitt Cancer Center, Tampa, FL
- 2015-Present Associate Professor (with tenure), University of South Florida, Tampa, FL

## **AWARDS AND RECOGNITIONS**

- 2015 USF Faculty Outstanding Research Achievement Award
- 2015 Biomatik Distinguished Junior Faculty Award, the Chinese-American Chemistry & Chemical Biology Professors Association (CAPA)
- 2014 Excellence in reviewing, European Journal of Medicinal Chemistry
- 2014 NSF Career Award
- 2014 ChemComm Emerging Investigator
- 2012 New Investigator award, Florida Bankhead Coley Cancer Research Program
- 2011 Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (ORAU)

## **PROFESSIONAL AFFILIATIONS**

Member, American Chemical Society (Organic Chemistry and Medicinal Chemistry Division)  
Member, American Peptide Society

## **RESEARCH INTEREST**

Area: Bioorganic, Chemical Biology, Medicinal Chemistry, and Biophysics  
Research Focus: Design, synthesis and investigation of bioactive peptidomimetics; development of novel nanomaterials

## **PUBLICATIONS**

**Work from Independent Career at University of South Florida:**

67. Yan Wang, Frankie Costanza, Alekhya Nimmagadda, Daqian Song, **Jianfeng Cai,\*** and Qi Li.\* PEG-poly (amino acid)s/MicroRNA complex nanoparticles effectively arrest the growth and metastasis of colorectal cancer, *J. Biomed. Nanotechnol.*, **2016**, accepted.
66. Xiaoyang Lin, Ge Bai, Kyle Sutherland, Frankie Costanza, Kurt Breitenkamp, Kevin Sill, **Jianfeng Cai,\*** and Chuanhai Cao.\* Polymer-Encapsulated A $\beta$  Peptide Fragments as an Oligomeric-Specific Vaccine for Alzheimer's disease" *J. Biomed. Nanotechnol.*, **2016**, accepted.
65. Fan Chao, Lu Chen, Qingling Huang, Tao Shen, Eric A. Welsh, Jamie K. Teer, **Jianfeng Cai**, W. Douglas Cress, and Jie Wu.\* Overexpression of major CDKN3 transcripts is associated with poor survival in lung adenocarcinoma. *Br. J. Cancer*, **2015**, ASAP.
64. Haifan Wu, Jinzhi Jiang, Hai Xu, Qi Li, **Jianfeng Cai.\*** RGD mimetic  $\gamma$ -AApeptides and methods of use us 20140004039 a1: a patent evaluation. *Expert Opin. Ther. Pat.*, **2015**, ASAP.
63. Hua Sui, Hanchen Xu, Qing Ji, Xuan Liu, Lihong Zhou, Haiyan Song, Xiqiu Zhou, Yangxian Xu, Zhesheng Chen, **Jianfeng Cai**, Guang Ji, Qi Li.\* 5-hydroxytryptamine receptor (5-HT<sub>1D</sub>R) promotes colorectal cancer metastasis by regulating Axin1/ $\beta$ -catenin/MMP-7 signaling pathway. *Oncotarget*. **2015**, 25975-25987.
62. Haifan Wu, Qiao Qiao, Peng Teng, Yaogang Hu, Dimitrios Antoniadis, Xiaobing Zuo, and **Jianfeng Cai.\*** A new class of heterogeneous helical peptidomimetics. *Org. Lett.*, **2015**, 17 (14), 3524–3527.
61. Yaqiong Li, Haifan Wu, Peng Teng, Ge Bai, Xiaoyang Lin, Xiaobing Zuo, Chuanhai Cao, **Jianfeng Cai.\*** Helical antimicrobial sulfono- $\gamma$ -AApeptides. *J. Med. Chem.*, **2015**, 58, 4802-4811.
60. Yuxia Hao, Ge Bai, Junping Wang, Longfeng Zhao, Kyle Sutherland, **Jianfeng Cai** and Chuanhai Cao.\* Identifiable biomarker and treatment development using HIV-1 long term non-progressor sera. *BMC Immunol*, **2015**, 16:25.
59. Shruti Padhee, Yaqiong Li, **Jianfeng Cai.\*** Activity of lipo-cyclic  $\gamma$ -AApeptides against biofilms of staphylococcus epidermidis and pseudomonas aeruginosa. *Bioorg. Med. Chem. Lett.*, **2015**, 25, 2565–2569.
58. Haifan Wu, Fengyu She, Wen-Yang Gao, Austin Prince, Yaqiong Li, Lulu Wei, Allison Mercer, Lukasz Wojtas, Shengqian Ma, and **Jianfeng Cai.\*** The Synthesis of Head-to-Tail Cyclic Sulfono- $\gamma$ -AApeptides. *Org. Biomol. Chem.*, **2015**, 13, 672-676.
57. Haifan Wu, Qiao Qiao, Yaogang Hu, Peng Teng, Wenyang Gao, Xiaobing Zuo, Lukasz Wojtas, Randy W. Larsen, Shengqian Ma, and **Jianfeng Cai.\*** Sulfono- $\gamma$ -AApeptides as a new class of unnatural helical foldamer. *Chem. Eur. J.*, **2015**, 21, 2501-2507.
56. Qing Ji, Xuan Liu, Zhifen Han, Lihong Zhou, Hua Sui, Linlin Yan, Haili Jiang, Jianlin Ren, **Jianfeng Cai**, and Qi Li.\* Resveratrol suppresses epithelial-to-mesenchymal transition in colorectal cancer through TGF- $\beta$ 1/Smads signaling pathway mediated Snail/E-cadherin expression. *BMC Cancer*, **2015**, 15:97.
55. Xuan Liu, Qing, Ji, Naijing Ye, Hua Sui, Lihong Zhou, Huirong Zhu, Zhongze Fan, **Jianfeng Cai**, and Qi Li.\* Berberine Inhibits Invasion and Metastasis of Colorectal Cancer Cells via COX-2/PGE<sub>2</sub> Mediated JAK2/STAT3 Signaling Pathway. *PLoS One*, **2015**, 10(5): e0123478.
54. Kenneth E. Ugen, Xiaoyang Lin, Ge Bai, Zhanhua Liang, **Jianfeng Cai**, Kunyun Li, Shijie Song, Chuanhai Cao\* and Juan Sanchez-Ramos. Evaluation of an alpha synuclein sensitized dendritic cell based vaccine in a transgenic mouse model of Parkinson's disease. *Hum. Vaccin. Immunother.*, **2015**, 11, 922-930.
53. Peng Teng, Haifan Wu, Lili Lin and **Jianfeng Cai.\*** Antimicrobial  $\gamma$ -AApeptides (WO2013112548)-a patent evaluation. *Expert Opin. Ther. Pat.*, **2015**, 25, 111-118.
52. Yaogang Hu, Ni Cheng, Haifan Wu, Samuel Kang, Richard D. Ye,\* and **Jianfeng Cai.\*** Design, synthesis and characterization of fMLF-mimicking AApeptides. *ChemBioChem*, **2014**, 15, 2420-2426.
51. Yaqiong Li, Christina Smith, Haifan Wu, Peng Teng, Yan Shi, Shruti Padhee, Torey Jones, Anh-My Nguyen, Chuanhai Cao, Hang Yin,\* and **Jianfeng Cai\*.** Short antimicrobial lipo- $\alpha/\gamma$ -AA hybrid peptides. *ChemBioChem*, **2014**, 2074-2280.

50. Peng Teng, Xiaolei Zhang, Haifan Wu, Qiao Qiao, Said M Sebti\* and **Jianfeng Cai\***. Identification of novel inhibitors that disrupt STAT3/DNA interaction from  $\gamma$ -AApeptide OBOC combinatorial library. *Chem. Commun.* **2014**, 50, 8739 - 8742.
49. Xiaoyang Lin, Ge Bai, Linda Lin, Hengyi Wu, **Jianfeng Cai**, Kenneth E Ugen\*, Chuanhai Cao\*. Vaccination induced changes in pro-inflammatory cytokine levels as an early putative biomarker for cognitive improvement in a transgenic mouse model for Alzheimer disease. *Hum. Vaccin. Immunother.* **2014**, 10(7), 2024-2031.
48. Chuanhai Cao\*, Yaqiong Li, Hui Liu, Ge Bai, Xiaoyang Lin, Kyle Sutherland, Jonathan Myal, Neel Nabar, **Jianfeng Cai\***. The potential therapeutic effects of THC on Alzheimer's disease. *J. Alz. Dis.* **2014**, 973-984.
47. Yan Wang, Frankie Costanza, Haifan Wu, Daqian Song, **Jianfeng Cai\*** and Qi Li\*. PEG-poly (amino acid)s-encapsulated Tanshinone IIA as potential therapeutics for the treatment of hepatoma. *J. Mat. Chem. B.* **2014**, 3115-3112.
46. Yan Wang, Daqian Song, Frankie Costanza, Huirong Zhu, Zhongze Fan,\* **Jianfeng Cai\*** and Qi Li.\* Targeted Delivery of Tanshinone IIA-conjugated mPEG-PLGA-PLL-cRGD Nanoparticles to Hepatocellular Carcinoma. *J. Biomed. Nanotechnol.* **2014**, 3244-3252.
45. Wen-Yang Gao, Yao Chen, Youhong Niu, Kia Williams, Lindsay Cash, Pastor Perez, Lukasz Wojtas , **Jianfeng Cai**, Yu-Sheng Chen and Shengqian Ma\*. Crystal engineering of an nbo topology MOF for chemical fixation of CO<sub>2</sub> under ambient conditions. *Angew Chem. Int. Ed.*, **2014**, 53, 2615-2619.
44. Shruti Padhee, Christina Smith, Haifan Wu, Yaqiong Li, Namitha Manoj, Qiao Qiao, Zoya Khan, Chuanhai Cao, Hang Yin,\* and **Jianfeng Cai.\*** The development of antimicrobial  $\gamma$ -AApeptides that suppress pro-inflammatory immune responses. *ChemBioChem*, **2014**, 688-694.
43. Haifan Wu, Peng Teng and **Jianfeng Cai.\*** Quick access to multiple classes of peptidomimetics from common  $\gamma$ -AApeptide building blocks. *Eur. J. Org.*, **2014**, 1760-1765.
42. Yaqiong Li, Christina Smith, Haifan Wu, Shruti Padhee, Namitha Manoj, Joseph Cardiello, Qiao Qiao, Chuanhai Cao, Hang Yin,\* and **Jianfeng Cai.\*** Lipidated cyclic  $\gamma$ -AApeptides display both antimicrobial and anti-inflammatory activity. *ACS Chem. Biol.*, **2014**, 9, 211-217.
41. Haifan Wu, Yaqiong Li, Ge Bai, Youhong Niu, Qiao Qiao, Jeremiah Tipton, Chuanhai Cao,\* **Jianfeng Cai.\***  $\gamma$ -AApeptide-based small-molecule ligands that inhibit A $\beta$  aggregation. *Chem. Commun.*, **2014**, 2014 *Emerging Investigators Issue*. DOI: 10.1039/C3CC46685J
40. Frankie Costanza, Shruti Padhee, Haifan Wu, Yan Wang, Jesse Revenis, Chuanhai Cao, Qi Li\* and **Jianfeng Cai.\*** Investigation of antimicrobial PEG-poly(amino acid)s. *RSC Advances*, **2014**, 4, 2089-2095.
39. Rongsheng E. Wang,\* Yin Zhang, Ling Tian, Weibo Cai\* and **Jianfeng Cai**. Antibody-Based Imaging of HER-2: Moving into the Clinic. *Curr. Mol. Med.*, **2013**, 13, 1523-1537.
38. Qing Ji, Xuan Liu, Xiaoling Fu, Long Zhang, Hua Sui, Lihong Zhou, Jian Sun, **Jianfeng Cai**, Jianmin Qin, Jianlin Ren\*, Qi Li\*. Resveratrol Inhibits Invasion and Metastasis of Colorectal Cancer Cells via MALAT1 Mediated Wnt/ $\beta$ -Catenin Signal Pathway. *PLOS One*, **2013**, 8, 11, e78700.
37. Yaqiong Li, Haifan Wu, Youhong Niu, Yaogang Hu, Qi Li, Chuanhai Cao, **Jianfeng Cai.\*** Development of RNA Aptamer-Based Therapeutic Agents. *Curr. Med. Chem.*, **2013**, 20, 3655-3663.
36. Haifan Wu, Peng Teng, Youhong Niu, Qi Li, **Jianfeng Cai.\*** Polymyxin derivatives: a patent evaluation (WO2012168820). *Expert Opin. Ther. Pat.*, **2013**, 1075-81.
35. Youhong Niu, Haifan Wu, Yaqiong Li, Yaogang Hu, Shruti Padhee, Qi Li, Chuanhai Cao and **Jianfeng Cai.\*** AApeptides as a new class of antimicrobial agents. *Org. Biomol. Chem.* **2013**, 11, 4283-4290.
34. Long Zhang, Qing Ji, Xuan Liu, Xingzhu Chen, Zhaohua Chen, Yanyan Qiu, Jian Sun, **Jianfeng Cai**, Huirong Zhu, and Qi Li. Norcantharidin inhibits tumor angiogenesis via blocking VEGFR2/MEK/ERK signaling pathways. *Cancer Sci.*, **2013**, 104, 604-610.
33. Neel R. Nabar, Fang Yuan, Xiaoyang Lin, Li Wang, Ge Bai, Jonathan Mayl, Yaqiong Li, Shu-Feng Zhou, Jinhuan Wang, **Jianfeng Cai**, Chuanhai Cao\*. Cell Therapy: A Safe and Efficacious Therapeutic Treatment for Alzheimer's Disease in APP+PS1 Mice. *PLoS One*, **2012**, 7, 12, e49468.

32. Youhong Niu, Haifan Wu, Rongfu Huang, Qiao Qiao, Frankie Costanza, Xi-Sen Wang, Yaogang Hu, Mohamad Nassir Amin, Anh-My Nguyen, James Zhang, Edward Haller, Shengqian Ma, Xiao Li, and **Jianfeng Cai\***. Nanorods formed from a new class of peptidomimetics. *Macromolecules*, **2012**, 45, 7350–7355.
31. Yaogang Hu, Mohamad Nassir Amin, Shruti Padhee, Rongsheng E. Wang, Qiao Qiao, Ge Bai, Yaqiong Li, Archana Mathew, Chuanhai Cao, and **Jianfeng Cai\***. Lipidated Peptidomimetics with Improved Antimicrobial Activity. *ACS Med. Chem. Lett.* **2012**, 55, 4003–4009.
30. Youhong Niu, Rongsheng E. Wang\*, Haifan Wu, **Jianfeng Cai\***. Recent development of small antimicrobial peptidomimetics. *Future Med. Chem.* **2012**, 4, 14, 1853–1862.
29. Haifan Wu, Mohamad Nassir Amin, Youhong Niu, Qiao Qiao, Nassier Harfouch, Abdelfattah Nimer, **Jianfeng Cai\***. Solid Phase Synthesis of  $\gamma$ -AApeptides Using a Novel Submonomeric Approach. *Org. Lett.* **2012**, 14, 3446–3449.
28. Yunan Yang, Youhong Niu, Hao Hong, Haifan Wu, Yin Zhang, Jonathan W. Engle, Todd E. Barnhart, **Jianfeng Cai\***, and Weibo Cai\*. Radiolabeled  $\gamma$ -AApeptides: A New Class of Tracers for Positron Emission Tomography. *Chem. Commun.* **2012**, 48, 7850–7852.
27. Haifan Wu, Youhong Niu, Shruti Padhee, Rongsheng E Wang, Yaqiong Li, Qiao Qiao, Ge Bai, Chuanhai Cao, and **Jianfeng Cai\***. Design and synthesis of unprecedented cyclic  $\gamma$ -AApeptides for antimicrobial development. *Chem. Sci.*, **2012**, 3, 2570–2575.
26. Zhongqiu Luo, Jialin Li, Neel R. Nabar, Xiaoyang Lin, Ge Bai, **Jianfeng Cai**, Shu-Feng Zhou, Chuanhai Cao\*, Jinhuan Wang\*. Efficacy of a Therapeutic Vaccine Using Mutated  $\beta$ -amyloid Sensitized Dendritic Cells in Alzheimer's Mice. *J. Neuroimmune Pharmacol.*, **2012**, 7, 640–645.
25. Wen-Yang Gao , Youhong Niu , Yao Chen , Lukasz Wojtas , **Jianfeng Cai** , Yu-Sheng Chen and Shengqian Ma\*. Porous Metal-Organic Framework Based on a Macrocyclic Tetracarboxylate Ligand Exhibiting Selective CO<sub>2</sub> Uptake. *CrystEngComm*, **2012**, 14, 6115–6117.
24. Youhong Niu, Shruti Padhee, Haifan Wu, Ge Bai, Qiao Qiao, Yaogang Hu, Lacey Harrington, Whitney N. Burda, Lindsey N. Shaw, Chuanhai Cao, and **Jianfeng Cai\***. Lipo- $\gamma$ -AApeptides as a new class of potent and broad-spectrum antimicrobial agents. *J. Med. Chem.* **2012**, 55(8), 4003–4009.
23. Chuanhai Cao\*, David A. Loewenstein, Xiaoyang Lin, Chi Zhang, Li Wang, Ranjan Duara, Yougui Wu, Alessandra Giannini, Ge Bai, **Jianfeng Cai**, Maria Greig, Elizabeth Schofield, Raj Ashok, Brent Small, Huntington Potter and Gary W. Arendash\*. High Blood Caffeine Levels in MCI Linked to Lack of Progression to Dementia. *J. Alz. Dis.* **2012**, 30, 559–572.
22. Youhong Niu, Ge Bai, Haifan Wu, Rongsheng E. Wang, Qiao Qiao, Shruti Padhee, Robert Buzzeo, Chuanhai Cao\*, and **Jianfeng Cai\***. Cellular translocation of a  $\gamma$ -AApeptide mimetic of Tat peptide. *Mol. Pharmaceutics*. **2012**, 9(5), 1529–1534
21. Ge Bai, Shruti Padhee, Youhong Niu, Rongsheng E. Wang, Robert Buzzeo, Chuanhai Cao\*, and **Jianfeng Cai\***. Cellular uptake of an  $\alpha$ -AApeptide. *Org. Biomol. Chem.* **2012**, 10 (6), 1149 - 1153.
20. Rongsheng E. Wang,\* Frankie Costanza, Youhong Niu, Haifan Wu, Yaogang Hu, Whitney Hang, Yiqun Sun, **Jianfeng Cai\***. Development of self-immolative dendrimers for drug delivery and sensing. *J. Control. Release*. **2012**, 159, 154–163.
19. Rongsheng E. Wang, Youhong Niu, Haifan Wu, Yaogang Hu, **Jianfeng Cai\***. Development of NGR-Based Anti-Cancer Agents for Targeted Therapeutics and Imaging. *Anticancer Agents Med. Chem.* **2012**, 12 (1), 76–86.
18. Youhong Niu, Shruti Padhee, Haifan Wu, Ge Bai, Lacey Harrington, Whitney N. Burda, Lindsey N. Shaw, Chuanhai Cao, and **Jianfeng Cai\***. Identification of  $\gamma$ -AApeptides with potent and broad-spectrum antimicrobial activity. *Chem. Commun.* **2011**, 47 (44), 12197 - 12199.
17. Rongsheng E. Wang, Yin Zhang, **Jianfeng Cai**, Weibo Cai, Ting Gao\*. Aptamer-Based Fluorescent Biosensors. *Curr. Med. Chem.* **2011**, 18, 4175–4184.
16. Rongsheng E. Wang,\* Haifan Wu, Youhong Niu, and **Jianfeng Cai\***. Improving the Stability of Aptamers by Chemical Modification. *Curr. Med. Chem.* **2011**, 18, 4126–4138.
15. Rongsheng E. Wang, Youhong Niu, Haifan Wu, Mohamad Nassir Amin, and **Jianfeng Cai\***. Development of NGR peptide-based agents for tumor imaging. *Am. J. Nucl. Med. Mol. Imaging* **2011**, 1(1), 36–46.

14. Shruti Padhee, Yaogang Hu, Youhong Niu, Ge Bai, Haifan Wu, Frankie Costanza, Leigh West, Lacey Harrington, Lindsey N. Shaw, Chuanhai Cao, and **Jianfeng Cai\***. Non-Hemolytic  $\alpha$ -AApeptides as Antimicrobial Peptidomimetics. *Chem. Commun.* **2011**, 47 (34), 9729 - 9731
13. Youhong Niu, Alisha “Jonesy” Jones, Haifan Wu, Gabriele Varani,\* and **Jianfeng Cai\***.  $\gamma$ -AApeptides bind to RNA by mimicking RNA-binding proteins. *Org. Biomol. Chem.*, **2011**, 9 (19), 6604 - 6609.
12. Youhong Niu, Yaogang Hu, Xiaolong Li, Jiandong Chen, and **Jianfeng Cai\***. Gamma-AApeptides: Design, Synthesis and Evaluation. *New J. Chem.* **2011**, 35, 542-545.
11. Yaogang Hu, Xiaolong Li, Said M. Sebt, Jiandong Chen, and **Jianfeng Cai\***. Design and Synthesis of AApeptides: A New Class of Peptide Mimics. *Bioorg. Med. Chem. Lett.*, **2011**, 21, 1469-1471.

#### Work from Graduate and Postdoc.

10. Rongsheng E. Wang, Raj K. Pandita, **Jianfeng Cai**, Clayton R. Hunt, John-Stephen Taylor\*. Inhibition of Heat Shock Transcription Factor Binding by a Linear Polyamide Binding in an Unusual 1:1 Mode. *ChemBioChem*, **2012**, 13(1), 97-104.
9. Sourav Saha, **Jianfeng Cai**, Daniel Eiler and **Andrew D. Hamilton\***. Programing the formation of DNA and PNA quadruplexes by pi-pi stacking interactions. *Chem. Commun.*, **2010**, 46, 1685-1687.
8. Yao Cheng, Lun K. Tsou, **Jianfeng Cai**, Toshihiro Aya, Ginger E. Dutschman, Elizabeth A. Gullen, Susan P. Grill, Annie Pei-Chun Chen, Brett D. Lindenbach, Andrew D. Hamilton, Yung-chi Cheng\*. A novel class of meso-tetrakis-porphyrin derivatives exhibit potent activities against hepatitis C virus genotype 1b replicons *in vitro*. *Antimicrob. Agents Chemother.* **2010**, 54(1), 197-206.
7. **Jianfeng Cai**, Dariusz Niedzwiedzki, Harry A. Frank\*, and Andrew D. Hamilton\*. Ultrafast energy transfer within pyropheophorbide-a tethered to self-assembling DNA Quadruplex. *Chem. Commun.* **2010**, 46, 544 - 546.
6. **Jianfeng Cai**, Brooke Rosenzweig, and Andrew D. Hamilton\*. Inhibition of Chymotrypsin by a self-assembled DNA quadruplex functionalized with cyclic peptide binding fragments. *Chem. Eur. J.*, **2009**, 15(2), 328-332.
5. **Jianfeng Cai**, Erik M. Shapiro\*, and Andrew D. Hamilton\*. Self-assembled DNA quadruplex conjugated to MRI contrast agent. *Bioconjugate Chem.*, **2009**, 20(2), 205-208.
4. **Jianfeng Cai**, Xiaoxu Li, and John Stephen Taylor\*. Improved nucleic acid triggered probe activation through the use of a 5-thiomethyluracil peptide nucleic acid building block. *Org. Lett.*, **2005**, 7(5), 751-754.
3. **Jianfeng Cai**, Xiaoxu Li, Xuan Yue, and John Stephen Taylor\*. Nucleic acid-triggered fluorescent probe activation by the Staudinger reaction. *J. Am. Chem. Soc.*, **2004**, 126(50), 16324-16325.
2. Yun Lu\*, **Jianfeng Cai** and Gi Xue. Molecular design of a soft interphase and its role in the reinforcement and toughening of aluminum powder-filled polyurethane. *J. Adhes. Sci. Technol.*, **2001**, 15, 71-82.
1. **Jianfeng Cai**, Yun Lu\*, Gi Xue and Wei Zhang. The reinforcement of Al filled Polyurethane system. *Mod. Plastics Proc. Appl.*, **1999**, 11 (6), 10.

#### PATENTS (at USF)

5. Said M. Sebt, Xiaolei Zhang, **Jianfeng Cai**, Peng Teng. Identification of Novel Inhibitors that Disrupt STAT3/DNA Interaction from  $\gamma$ -peptide OBOC Combinatorial Library, 2014, Application No. 61/984179.
4. **Jianfeng Cai**, Chuanhai Cao, Haifan Wu, Yaqiong Li, and Ge Bai. Methods of Synthesizing  $\gamma$ -AApeptides,  $\gamma$ -AApeptide Building Blocks,  $\gamma$ -AApeptide Libraries, and  $\gamma$ -AApeptide Inhibitors of Abeta40 Aggregates, 2013, Application No. 61/870874.
3. **Jianfeng Cai**, Youhong Niu, Weibo Cai, and Hao Hong. RGD mimetic  $\gamma$ -AApeptides and methods of use. 2012, Application No. 61/667035.

2. **Jianfeng Cai**, Youhong Niu, Haifan Wu, Shruti Padhee. Identification of  $\gamma$ -AApeptides with potent and broad-spectrum antimicrobial activity. 2012, Application No. 61589406.
1. Nathan J. Rice, Lennox Hoyte, and **Jianfeng Cai**. Materials and methods for reliable measurement of blood volume. 2011, *PCT Int. Appl. WO 2011130304*.

### **BOOK CHAPTERS**

4. Peng Teng, Haifan Wu and **Jianfeng Cai\***. Peptidomimetics as antimicrobial agents. *Novel Antimicrobial Agents and Strategies*. Wiley, 2014, accepted.
3. Haifan Wu and **Jianfeng Cai\***. Engineering AApeptides for Translational Medicine. *Engineering in Translational Medicine*, 2013, ISBN: 978-1-62703-651-1.
2. Youhong Niu, Yaogang Hu, Haifan Wu, and **Jianfeng Cai\***. Synthesis of AApeptides. *Peptide Modifications to Increase Metabolic Stability and Activity*, 2013, ISBN: 978-1-62703-651-1.
1. Youhong Niu, Yaogang Hu, Rongsheng E. Wang, Xiaolong Li, Haifan Wu, Jiandong Chen\* and **Jianfeng Cai\***. AApeptides as a New Class of Peptidomimetics to Regulate Protein-Protein Interactions. *Protein Interactions*, 2012, ISBN: 978-953-51-0244-1.

### **ORAL TALKS AND SEMINARS**

1. Florida Organic Day, Florida Southern College, 03/12/2012
2. Florida ACS meeting, Tampa, FL, 05/09/2012
3. Kimberly-Clark, Appleton, WI, 06/02/2012
4. Department of Chemistry, University of Oxford, Oxford, England, 06/07/2012
5. Interventional Cancer Institute of Integrative Medicine, Putuo Hospital, Shanghai, China, 12/12/2012
6. Department of Chemistry, University of Florida, Gainesville, FL, 11/15/2013
7. Department of Chemistry and Biochemistry, University of California-Santa Barbara, Santa Barbara, CA, 2/27/2014
8. Department of Chemistry, University of California-Irvine, Irvine, CA, 2/28/2014
9. Department of Chemistry and Biochemistry, Georgia Institute of Technology, GA, 3/10/2014
10. Department of Chemistry, Georgia State University, Atlanta, GA, 3/11/2014
11. Department of Chemistry, University of South Florida, GA, 3/13/2014
12. 247th ACS national meeting, Organic section, Dallas, TX, 3/17/2014
13. Department of Chemistry, Florida State University, Tallahassee, FL, 3/27/2014
14. Department of Chemistry, University of Wisconsin-Madison, Madison, WI, 4/3/2014
15. Kimberly-Clark, Appleton, WI, 4/4/2014
16. Department of Chemistry, Scripps Florida, Jupiter, FL, 4/17/2014
17. Innovative Drug Research Center, Chongqing University, Chongqing, China, 5/6/2014
18. Department of Chemistry, Nanjing University, Nanjing, China, 5/7/2014
19. College of Pharmacy, Shanghai Jiaotong University, Shanghai, China, 5/8/2014
20. Department of Medical Oncology, Shuguang Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai, China, 5/9/2014
21. Bioorganic Gordon Conference, Andover, NH, 6/11/2014
22. Department of Chemistry, Washington University in St. Louis, MO, 4/23/2015
23. Department of Chemistry, University of Missouri-St. Louis, 4/24/2015
24. Department of Chemistry, Southeast University, China, 6/25/2015
25. College of Pharmacy, Zhejiang University, China, 6/26/2015
26. Department of Chemistry, Central South University, China, 7/1/2015
27. Lawrence Berkeley National Laboratory, San Francisco, 8/6/2015
28. College of Medicine, University of South Florida, 9/16/2015

### **ACTIVE GRANTS**

1. PI, NSF CAREER award (1351265). 07/01/2014-06/30/2019, \$500,000. CAREER: Lipo-Cyclic Antimicrobial Peptidomimetics that Disrupt Bacterial Membrane.

2. PI, NIH 1R01GM112652-01A1, \$1,475,750, 07/01/2015-04/30/2020, Alpha-AApeptides as a novel class of antimicrobial biomaterials.
3. PI, NIH 1R56AI105099-01A1, \$363,509, 09/01/2015-08/31/2017 (with no-cost extension), Novel non-natural oligomers that mimic the structure and function of bioactive peptides.
4. Co-I, NIH 1R15GM117531-01 (PI: Jianjun Pan), \$89,709 to J. Cai, 12/01/2015-11/31/2018, Characterizing Interactions between Bacterial Membranes and Peptidomimetics for the Development of Antibiotics Targeting Multidrug Resistant Bacteria