CURRICULUM VITAE

Xiaohua Peng, Ph. D.

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Group Web: https://pengxlab.com/

Education

2006-2009	Post-doctoral fellow, Johns Hopkins University, Baltimore, MD, USA **Research focus**: DNA interstrand cross-linking by modified nucleotides Mentor: Prof. Marc M. Greenberg
2002-2006	Ph.D., Organic and Bioorganic Chemistry, University of Osnabrueck, Germany **Thesis**: Modified nucleosides and oligonucleotides containing 7-deazapurines: Synthesis, Tautomerism, Base pairing, and Mismatch discrimination Mentor: Prof. Dr. Frank Seela
1997-2000	M. S., Key Laboratory for Asymmetric Synthesis and Chirotechnology, Chengdu Institute of Organic Chemistry, Chinese Academy of Sciences, China **Thesis**: The preparation of chiral medicines with high optical purity by chiral inclusion complexation Advisor: Prof. Jingeng Deng and Prof. Jin Zhu
1993-1997	B. S., Chemistry Department, Nanchang University, Nanchang, Jiangxi, China **Senior project**: The synthesis of organic gernanium compounds Advisor: Prof. Xinsheng Li

Work Experience

2015- present	Associate Professor, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee
2009- 2015	Assistant Professor, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee
2000–2002	Lecturer, Chemistry Department, Fudan University, Shanghai, China.

Honors and Awards

2012	The Graduate School/UWM Foundation Research
2012	Graduate School Research Fellow, University of Wisconsin – Milwaukee
2012	Shaw Scientist Award, Greater Milwaukee Foundation
2011	Graduate School Research Fellow, University of Wisconsin – Milwaukee
2010	NIH Academic Research Enhancement Award
2006	Chinese Government Award for Outstanding Self-financed Students Abroad
1999	Liu Yong-Ling Award for Excellent Graduate Students, Chinese Academy of Sciences
1995	China Undergraduate Mathematical Contest in Modeling (CUMCM), First Prize
1996	Wang Hongbing Prize for Outstanding Undergraduate Students

1995 Chen Xiangmei Prize for Outstanding Undergraduate Students
1997 Graduate with Honor, Nanchang University
1993-1996 Special Prizes for Outstanding Academic Achievement, Nanchang University

Other Experience and Professional Memberships

2002-present Member of International Society for Nucleosides, Nucleotides, and Nucleic Acids
2006-present Member of American Chemical Society, Organic Chemistry Division
2010-present Founding Member of the Advisory Board of the Milwaukee Institute of Drug Discovery
2010-present Member of the Clinical and Translational Science Institute at the Medical College of Wisconsin
2011-present Member of American Association for Cancer Research
2012-present Member of Chinese-American Chemistry&Chemical Biology Professors Association
2016-present Associate editor of Reactive Oxygen Species

Courses Taught

CHEM 343: Organic Chemistry I
CHEM 345: Organic Chemistry II
CHEM 344: Organic Laboratory
CHEM 342: Organic Laboratory
CHEM 341: Introductory Survey of Organic Chemistry
CHEM 743: Medicinal Chemistry
Science Bag Presentation

Teaching (2009-present *University of Wisconsin-Milwaukee, Milwaukee, WI, United States)*

Fall 2020
CHEM-743: Medicinal Chemistry / Graduate, 3 credits, 6 students.
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 40 students.
CHEM-399: Special Chemical Problems / Undergraduate, 2 credits, 1 student.
CHEM-691: Senior Research / Undergraduate, 2-3 credits, 3 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 5 students.
CHEM-990: Research: Organic Chemistry **/** Graduate, 3-9 credit, 4 students.
CHEM-996: Research: Biochemical / Graduate, 1 credit, 1 student.

Spring 2020
CHEM-343: Organic Chemistry/ Undergraduate, 3 credits, 150 students.
CHEM-691: Senior Research / Undergraduate, 1-3 credits, 5 students.
CHEM- 912: Graduate Seminar / Graduate, 1 credit, 56 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 5 students.
CHEM-990: Research: Organic Chemistry **/** Graduate, 9 credits, 5 students.
CHEM-996: Research: Biochemical / Graduate, 1 credit, 1 student.

Fall 2019
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 38 students.
CHEM-691: Senior Research / Undergraduate, 1-3 credits, 5 students.
CHEM- 912: Graduate Seminar / Graduate, 1 credit, 64 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 5 students.
CHEM-990: Research: Organic Chemistry **/** Graduate, 9 credits, 5 students.

Summer 2019
CHEM-691: Senior Research / Undergraduate, 3 credits, 1 student.

Spring 2019

CHEM-691: Senior Research / Undergraduate, 2 credits, 2 students.
CHEM- 912: Graduate Seminar / Graduate, 1 credit, 65 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Fall 2018
CHEM-743: Medicinal Chemistry / Graduate, 3 credits, 13 students.
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 32 students.
CHEM-691: Senior Research / Undergraduate, 2 credits, 1 student.
CHEM- 912: Graduate Seminar / Graduate, 1 credit, 67 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Spring 2018
Science Bag: Undergraduate/Graduate, 3 credits, 50-100 students.
CHEM-691: Senior Research / Undergraduate, 3 credits, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Fall 2017
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, Buyout.
CHEM-743: Medicinal Chemistry / Graduate, 3 credits, Buyout.
CHEM-691: Senior Research / Undergraduate, 4 credits, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Summer 2017
CHEM-691: Senior Research / Undergraduate, 4 credits, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Spring 2017
CHEM-691: Senior Research / Undergraduate, 2-3 credits, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 3 students.

Fall 2016
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 48 students.
CHEM-691: Senior Research / Undergraduate, 1-3 credits, 5 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 1 student.

Summer 2016
CHEM-691: Senior Research / Undergraduate, 1 credit, 1 student.

Spring 2016
CHEM-344: Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 126 students.
CHEM-691: Senior Research / Undergraduate, 2-3 credits, 3 students.
CHEM-399: Special Chemical Problems / Undergraduate, 2-3 credits, 2 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.
CHEM-990: Research: Organic Chemistry / Graduate, 9 credits, 1 student.

Fall 2015
CHEM-743: Medicinal Chemistry / Graduate, 3 credits, 9 students.
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, RGI buyout.
CHEM-342: Introductory Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 42 students.

CHEM-399: Special Chemical Problems / Undergraduate, 2-3 credits, 1 student.
CHEM-691: Senior Research / Undergraduate, 2-3 credits, 3 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.
CHEM-990: Research: Organic Chemistry / Graduate, 3-9 credits, 2 students.

Spring 2015
CHEM-399: Special Chemical Problems / Undergraduate, 2 credits, 1 student.
CHEM-691: Senior Research / Undergraduate, 2-3 credits, 3 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.
CHEM-990: Research: Organic Chemistry / Graduate, 3-9 credits, 3 students.

Fall 2014
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 65 students.
CHEM-342: Introductory Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 56 students.
CHEM-344: Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 112 students.
CHEM-691: Senior Research / Undergraduate, 2 credits, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.

Summer 2014
CHEM-990: Research: Organic Chemistry / Graduate, 3 credits, 1 student.

Spring 2014
CHEM-741: Medicinal Chemistry / Graduate, 2 credits, 8 students.
CHEM-399: Special Chemical Problems / Undergraduate, 2 credits, 1 student.
CHEM-691: Senior Research / Undergraduate, 2 credits, 2 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 1 student.
CHEM-990: Research: Organic Chemistry / Graduate, 3 credits, 3 students.

Fall 2013
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 46 students.
CHEM-342: Introductory Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 37 students.
CHEM-691: Senior Research / Undergraduate, 1-2 credits, 6 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 3 credits, 3 students.

Summer 2013
CHEM-691: Senior Research / Undergraduate, 2 credits, 2 students.

Spring 2013
CHEM-691: Senior Research / Undergraduate, 1-2 credits, 2 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credits, 2 students.
CHEM-990: Research: Organic Chemistry / Graduate, 2-9 credits, 3 students.

Fall 2012
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 51 students.
CHEM-342: Introductory Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 42 students.
CHEM-344: Organic Chemistry Laboratory (Laboratory) / Undergraduate, 3 credits, 98 students.
CHEM-691: Senior Research / Undergraduate, 3-4 credits, 3 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 6-9 credits, 3 students.

Summer 2012
CHEM-691: Senior Research / Undergraduate, 3 credits, 1 student.

Spring 2012
CHEM-741: Medicinal Chemistry / Graduate, 2 credits, 10 students.
CHEM-399: Special Chemical Problems / Undergraduate, 2 credits, 1 student.

CHEM-691: Senior Research / Undergraduate, 1-2 credits, 3 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 2 students.
CHEM-990: Research: Organic Chemistry / Graduate, 6-9 credits, 3 students.

Fall 2011
CHEM-341: Introductory Survey of Organic Chemistry/ Undergraduate, 3 credits, 40 students.
CHEM-691: Senior Research / Undergraduate, 1-3 credits, 2 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 2 students.
CHEM-990: Research: Organic Chemistry / Graduate, 6-9 credits, 3 students.

Summer 2011
CHEM-691: Senior Research / Undergraduate, 1 credit, 1 student.

Spring 2011
CHEM-344: Organic Chemistry Laboratory (Laboratory) / Undergraduate, 2 credits, 112 students.
CHEM-691: Senior Research / Undergraduate, 1 credit, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 2 students.
CHEM-990: Research: Organic Chemistry / Graduate, 4 credits, 2 students.

Fall 2010
CHEM-345: Organic Chemistry/ Undergraduate, 3 credits, 121 students.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 3 students.
CHEM-990: Research: Organic Chemistry / Graduate, 1-7 credits, 2 students.

Summer 2010
CHEM-691: Senior Research / Undergraduate, 1 credit, 1 student.

Spring 2010
CHEM-343: Organic Chemistry/ Undergraduate, 3 credits, 152 students.
CHEM-691: Senior Research / Undergraduate, 1 credit, 1 student.
CHEM-934: Advanced Seminar in Organic Chemistry (Seminar) / Graduate, 1 credit, 2 students.
CHEM-990: Research: Organic Chemistry / Graduate, 3 credits, 2 students.

Peng Group Members (2009-present *University of Wisconsin-Milwaukee, Milwaukee, WI, United States)*

A. Postdoctoral research associates and visiting scholars.

1. Heli Fan, In vivo study of ROS-activated prodrugs, **01/01/2019-6/30/2019**.
2. Zechao Lin, Photo-Induced DNA Interstrand Cross-Link Formation by Naphthalene Precursors: the Structure-Reactivity Relationships and Mechanism, **01/01/2016 – 01/01/2018**.
3. Huabing Sun, Coumarin-Induced DNA Ligation and DNA Interstrand Cross-Links, **06/01/2015-01/31/2016**.
4. Yukai Fan, Developing DNA-templated metal-free flurogenic "click" reactions for sequence-specific DNA detection and PCR-free signal amplification, **07/01/2014 - 12/31/2015.**
5. Yanping He, Developing dual acting non-nucleoside inhibitors to treat HIV/HCV co-infections, **04/01/2013 - 03/31/2014.**
6. Yanyan Han, Optimization of nitroimidazole-modified nucleosides as radiation-activated anticancer agents that target tumor microenvironments, **07/01/2012 - 02/10/2014.**
7. Wenbing Chen, Developing hydrogen peroxide activated nitrogen mustards prodrugs as selective anticancer agents, **08/01/2011 – 10/31/2015**.
8. Sheng Cao, Developing hydrogen peroxide activated quinone methide prodrugs as selective anticancer agents, **01/01/2011 - 07/31/2013**.
9. Yunyan Kuang, Developing radiation-activated DNA damaging agents that target tumor microenvironments, **08/01/2010-02/29/2012**.

B. Graduate Students

1. Eron Saxon, Chemical optimization of ROS-activated nitrogen mustard analogues as potent and selective anticancer agents, **September 2019-Present.**
2. Taufeeque Ali, Biological investigation of ROS-activated nitrogen mustard analogues. **January 2019-Present.**
3. Nurul Islam Setu, Modified nucleosides and nucleotides for mechanism investigation of DNA damages, **September 2018-Present.**
4. Anahit Campbell, Method optimization of mass analysis for halogenated DNA cross-linking agents and pharmacokinetic study of ROS-activated nitrogen mustard analogue, **September 2017-May, 2020.**
5. Muhammad Asad Uz Zaman, Photoinduced DNA cross-linking agents: design, synthesis, and biological investigation, **September 2016-Present.**
6. Qi Zhang, DNA Interstrand Cross-Link Formation by Naphthalene Precursors: the Structure-Reactivity Relationships and Mechanism Investigation, **September 2016-Present.**
7. Heli Fan, Photo-induced DNA cross-link formation by benzene analogues and in vivo investigation of ROS-activated anticancer prodrugs, **January 2014-December 2018.**
8. Huabing Sun, Oligonucleotides Containing Coumarin Derivatives: Syntheis, DNA Mutation Detection, and Interstrand Cross-Link (ICL) Formation, **September 2011-December 2014.**
9. Yibin Wang, Inducible DNA cross-linking agents: design, synthesis, and biological investigation, **January 2011-December 2015.**
10. Mohammad Mojibul Haque, Modification of pyrimidine and purine nucleotides by "click" chemistry: design, synthesis, and properties study, **September 2009-August 2014.**

C. Undergraduate Students

1. Nadia Henderson, Synthesis of photoactivated DNA cross-linking agents, **September 2019-December 2019**.
2. Hanming Mu, Synthesis of modified nucleosides, **September 2019-December 2019**.
3. Aaron Nhialong Stange, Investigation of gene regulation by ROS-activated DNA cross-linking agents, **September 2019-December 2019**.
4. Jipson Madappilly Vincent, Synthesis of anthracene analogues as photo-activated DNA cross-linking agents, **September 2019-December 2019**.
5. Taylor Coleen Willard, Toxicity study of ROS-activated DNA cross-linking agents, **September 2019-December 2019**.
6. Shivali Zala, In vivo efficacy study of ROS-activated DNA cross-linking agents, **June 2019-August 2019**.
7. Paphitchaya Liotrakun, Synthesis of binaphthalene analogues as photo-activated DNA cross-linking agents, **January 2019-May 2019**.
8. teDuits Payton, Safety study of ROS-activated DNA cross-linking agents, **January 2019-May 2019**.
9. Nathan Charles Grimmer, Synthesis of modified nucleosides, **September 2018-December 2018**.
10. Mariah Rose Dunn, In vivo efficacy study of ROS-activated DNA cross-linking agents, **January 2018-May 2018**.
11. Raveena Rani, Synthesis of bromobenzene analogues as photo-activated DNA cross-linkers, **September 2017-December 2017**.
12. Natasha D Veal, Synthesis of photo-activated binaphthalene analogues, **January 2017-May 2017**.
13. Nicholas John Williams, Toxicity study of quinone methide prodrugs, **September 2016-May 2017**.
14. Justin John Grahl, In Vivo Testing of H2O2-Activated Arylboronate Anticancer Drugs, **September 2016-May 2017**.
15. Areej Faraj Jaber, Toxicity study of H2O2-activated nitrogen mustard prodrugs, **September 2016-December 2016**.

16. Frederick Benjamin Melms, Toxicity study of H2O2-activated quinone methide prodrugs, **June 2016-December 2016**.
17. Dou Vang, Synthesis of nitrobenzene derivatives as DNA cross-linkers, **September 2016-December 2016**.
18. Natasha D Veal, In vivo efficacy of H2O2-activated prodrugs, **January 2016-May 2016**.
19. Talon Lorraine Radke, Biological investigation of bifuncational benzene analogues, **September 2015-May 2016**.
20. Rachel Marie Margis, DNA cross-link assay of binaphthalene analogues, **January 2016-May 2016**.
21. Nicholas John Williams, Toxicity study of quinone methide prodrugs, **January 2016-May 2016**.
22. Justin John Grahl, In Vivo Testing of H2O2-Activated Arylboronate Anticancer Drugs, **January 2016-May 2016**.
23. Rick D Nguyen, Synthesis of photo-activated binaphthalene analogues, **September 2015-December 2015**.
24. Quibria Ariana Guthrie, Synthesis of quinone methide prodrugs, **September 2015-December 2015**.
25. Justin John Grahl, In Vivo Testing of H2O2-Activated Arylboronate Anticancer Drugs, **September 2015-December 2015**
26. Jacob D Sessions, In vivo efficacy of H2O2 activated prodrugs, **January 2015-May 2015**.
27. Olga Kontarovich, Toxicity study of nitrogen mustard prodrugs, **January 2015-May 2015**.
28. Jill Rae Dworschack, In vivo efficacy of nitrogen mustard prodrugs, **January 2015-May 2015**.
29. John Joseph Thomas, Synthesis of photo-induced DNA cross-linking agents, **January 2015-May 2015**.
30. Bruce Lee, Synthesis of H_2O_2-activated nitrogen mustard prodrugs, **June 2014-December 2014**.
31. Arianna Guthrie Quibria, The effect of leaving group on quinone methide formation induced by arylboronates, **June 2014-December 2014**.
32. Brooke Elizabeth Pirkov, Synthesis and purification of a 49 mer oligonucleotide, **January 2014-May 2014**.
33. Bruce Lee, Synthesis of H_2O_2-activated nitrogen mustard prodrugs, **January 2014-May 2014**.
34. Hyeyoung Eom**,** Coumarin drivatives: Synthesis, Photochemistry, and future application in DNA, **September 2013-May 2014**.
35. Chay Teng Yeo, Modification of 2'-Deoxyadenosine via "Click" Chemistry, **September 2013-December 2013**.
36. TavaJo Ann Hansen-Kaas**,** Synthesis of an azide-modified coumarin derivative, **September 2013-December 2013**.
37. Tori Nelsestuen, Synthesis of an alkyne-modified coumarin derivative, **September 2013-December 2013**.
38. Melissa Ann Schwartz, The Effect of Leaving Group on the Mechanism of DNA Cross-Linking Formation Induced by Arylboronates, **September 2013-December 2013**.
39. Brooke Elizabeth Waala, Synthesis of boronate-modified coumarin derivatives as H2O2 probe**, September 2013-December 2013**.
40. Kimberly Frances Wenzel, Synthesis and purification of alkynylcoumarin modified oligonucleotides, **June 2013-August 2013**.
41. Chay Teng Yeo, Modification of Pyrimidine Nucleosides via "Click" Chemistry, **June 2013-August 2013.**
42. Hyeyoung Eom**,** Coumarin drivatives: Synthesis, Photochemistry, and future application in DNA, **June 2013-August 2013.**
43. Abdulkari Alsamah, Synthesis and purification of coumarin-modified oligodeoxynucleotides, **September 2012-May 2013**.
44. Bruce Lee, A Novel Nucleoside for Potent DNA Cross-link in the Presence of H2O2, **January 2013-May 2013**.
45. Matthew James Haney, Synthesis and purification of coumarin-modified oligodeoxynucleotides, **June 2012-December 2012**.

46. Tyndall Lynn Testerman**,** Synthesis of triazole-modified thymidine, **June 2012-December 2012**.
47. Christians Robin, Aromatic substituent effects on quinone methide formation induced by hydrogen peroxide, **January 2011-August 2012**.
48. Rachael LeeAnn Reilly, Synthesis of nitroimidazole-modified thymidine, **January 2012-May 2012**.
49. Amy Yang, Synthesis of arylboronate esters as hydrogen peroxide inducible DNA cross-linking agents, **January 2012-May 2012**.
50. Louise Amanda Felhofer, Synthesis of coumarin-modified thymidine**, September 2011-December 2011**.
51. Xiong Toua, Synthesis of modified 2'-deoxythymidine and its phosphoramidite building block, **January 2011-May 2011**.
52. Gurjit Singh**,** Synthesis and purification of azide modified DNA, **June 2010-August 2010.**
    Noreena L. Sweeney, Thermal stability of modified PNA-DNA and DNA-DNA duplexes, **January 2010-May 2010**.

D. Students' Special Honors at UWM

2017 Heli Fan Sun, a graduate research student in Dr. Peng's group, won the UWM Distinguished Dissertation Fellowship (DDF) award for the 2017-2018 academic year.

2016 Heli Fan Sun, a graduate research student in Dr. Peng's group, won the UWM Distinguished Graduate Student Fellowship (DGSF) award for the 2016-2017 academic year.

2014 Huabing Sun, a graduate research student in Dr. Peng's group, won "Dr. and Mrs. George Sosnovsky Award for Excellence in Graduate Research"

2014 Chay Teng Yeo, an undergraduate research student in Dr. Peng's group, won the Outstanding Performance in Biochemistry award

2013 Mojib Haque, a graduate research student in Dr. Peng's group, won third prize (of the graduate students) at the UWM Chemistry and Biochemistry Research Symposium in 2013.

2013 Huabing Sun, a graduate research student in Dr. Peng's group, won the UWM Distinguished Graduate Student Fellowship for the 2013-2014 academic year.

2013 Bruce Lee, an undergraduate research student Dr. Peng's group, won the Outstanding Performance in Organic chemistry award

2011 The publication titled "Hydrogen Peroxide Inducible DNA Cross-Linking Agents: Targeted Anticancer Prodrugs" by **Xiaohua Peng** and Yunyan Kuang was featured in a Science and Technology Concentrate in *C&E News* and in a news story in *Chemistry World*

Committees and Administration

A. <u>Graduate Student Committees</u>

Year 2020:
Katryna Deliah Williams (Alan Schwabacher) PhD
Alexander Bennett Vincent (Alan Schwabacher) PhD
Mohammad Mohiminul Islam (Shama P Mirza) PhD
Jawad bin Belayet (Mahmum Hossain) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD

Kamal Prasad Pandey (James Cook) PhD
Taukir Ahmed (James Cook) PhD
Md Shahnawaz Ali (Mahmum Hossain) PhD
Farjana Rashid (James Cook) PhD

Year 2019:
Katryna Deliah Williams (Alan Schwabacher) PhD
Alexander Bennett Vincent (Alan Schwabacher) PhD
Mohammad Mohiminul Islam (Shama P Mirza) PhD
Jawad bin Belayet (Mahmum Hossain) PhD
Olivia Yu (Alexander Arnold) PhD
Atreyei Ray (David Frick) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD
Kamal Prasad Pandey (James Cook) PhD
Taukir Ahmed (James Cook) PhD
Md Shahnawaz Ali (Mahmum Hossain) PhD
Farjana Rashid (James Cook) PhD

Year 2018:
Alexander Bennett Vincent (Alan Schwabacher) PhD
Jawad bin Belayet (Mahmum Hossain) PhD
Olivia Yu (Alexander Arnold) PhD
Atreyei Ray (David Frick) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD
Kamal Prasad Pandey (James Cook) PhD
Ted William Harris (James Cook) PhD
Lanlan Han (Nicholas R Silvaggi) PhD
Taukir Ahmed (James Cook) PhD
Md Shahnawaz Ali (Mahmum Hossain) PhD
Farjana Rashid (James Cook) PhD

Year 2017:
Jawad bin Belayet (Mahmum Hossain) PhD
Olivia Yu (Alexander Arnold) PhD
Atreyei Ray (David Frick) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD
Kamal Prasad Pandey (James Cook) PhD
Ted William Harris (James Cook) PhD
Lanlan Han (Nicholas R Silvaggi) PhD
Taukir Ahmed (James Cook) PhD
Md Shahnawaz Ali (Mahmum Hossain) PhD
Farjana Rashid (James Cook) PhD

Year 2016:
Lanlan Han (Nicholas R Silvaggi) PhD
Olivia Yu (Alexander Arnold) PhD
Farjana Rashid (James Cook) PhD
Atreyei Ray (David Frick) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD

Year 2015:
Lanlan Han (Nicholas R Silvaggi) PhD
Olivia Yu (Alexander Arnold) PhD
Farjana Rashid (James Cook) PhD
Atreyei Ray (David Frick) PhD
Md. Sharif Al Asad (Mahmum Hossain) PhD
Mizzanoor Rahaman (Mahmum Hossain) PhD
Zhe Cao (Guilherme L Indig) MSc
Sibel Mehmedova Ibryamova (Guilherme L Indig) PhD

Year 2014:

Taher Sh Ababneh (Jorg C. Woehl) PhD

Belaynesh Feleke (Alexander Arnold) PhD

Kaniz Fatema (David Petering) MSc

Md. Sharif Al Asad (Mahmum Hossain) PhD

Zhe Cao (Guilherme L Indig) MSc

Lanlan Han (Nicholas R Silvaggi) PhD

Md Mizzanoor Rahaman (Mahmum Hossain) PhD

Sibel Mehmedova Ibryamova (Guilherme L Indig) PhD

Matthew Marcus Huisman (Mahmum Hossain) PhD

Maria Shevyrev (Mahmum Hossain) PhD

Joseph Steve Ulicki (Mahmum Hossain) PhD

Year 2013:

Belaynesh Feleke (Alexander Arnold) PhD

Maria Shevyrev (Mahmum Hossain) PhD

Kaniz Fatema (David Petering) MSc

Md. Sharif Al Asad (Mahmum Hossain) PhD

Zhe Cao (Guilherme L Indig) MSc

Lanlan Han (Nicholas R Silvaggi) PhD

Matthew Marcus Huisman (Mahmum Hossain) PhD

Sibel Mehmedova Ibryamova (Guilherme L Indig) PhD

Nazim Uddin (Mahmum Hossain) PhD

Joseph Steve Ulicki (Mahmum Hossain) PhD

Year 2012:

Maria Shevyrev (Mahmum Hossain) PhD

Md. Sharif Al Asad (Mahmum Hossain) PhD

Matthew Marcus Huisman (Mahmum Hossain) PhD

Nazim Uddin (Mahmum Hossain) PhD

Joseph Steve Ulicki (Mahmum Hossain) PhD

Year 2011:

Terry Clayton (James M. Cook) PhD

Chitra Rahu Edwankar (James M. Cook) PhD

M. Shahjahan Kabir (James M. Cook) PhD

Joseph Steve Ulicki (Mahmum Hossain) PhD

Year 2010:

Rahul V. Edwankar (James M. Cook) PhD

B. University/School Committees

UWM Awards and Recognition committee (2015-2016 and 2018 – 2020)
UWM the Nominations Committee (2018-2020)

C. Chemistry and Biochemistry Committees

2019-2020
Departmental /Executive Committee
Graduate Admissions Subcommittee
Graduate Subcommittee
Space Subcommittee (Chair)
Graduate Advising Committee (Chair)

2018 – 2019
Departmental /Executive Committee
Graduate Admissions Subcommittee
Graduate Subcommittee
Space Subcommittee (Chair)
Graduate Advising Committee (Chair)

2017 − 2018
Departmental /Executive Committee
Graduate Admissions Subcommittee
Graduate Subcommittee
Space Subcommittee (Chair)
Graduate Advising Committee (Chair)

2016 − 2017
Departmental /Executive Committee
Graduate Subcommittee
Space Subcommittee (Chair)
Graduate Advising Committee (Chair)

2015 − 2016
Departmental /Executive Committee
Graduate Subcommittee
Space Subcommittee (Chair)

Graduate Advising Committee (Chair)

2013 − 2014
Departmental Committee (0.5 h/week)
Graduate Admissions Subcommittee (1 h/week)
Graduate Subcommittee (1 h/week)
Letters & Sciences review committees for scholarships (3.0 h/month)

2012 − 2013
Departmental Committee (0.5 h/week)
Graduate Subcommittee (1 h/week)

2011 − 2012
Departmental Committee (0.5 h/week)
Graduate Subcommittee (1 h/week)
Academic/Industrial Relations Submmittee (0.5 h/week)
Undergraduate/Appeals Subcommittee (1 h/week)

2010 − 2011
Departmental Committee (0.5 h/week)
Undergraduate/Appeals Subcommittee (1 h/week)
Ad-Hoc Search and Screen Committee for MIDD Director Hire (0.2 h/week)
Ad-Hoc Search and Screen Committee for Mass Spectroscopist Hire (Ad Hoc Subcommittee) (0.2 h/week)

2009 − 2010
Departmental Committee (0.5 h/week)
Undergraduate/Appeals Subcommittee (1 h/week)

Review Panels

Grant review panels: American Chemical Society, Petroleum Research Fund, Clinical and Translational Science Institute of Southeast Wisconsin (Pilot Award)

Journal Articles: Nature Chemistry, Journal of the American Chemical Society, Nature Communication, Journal of Medicinal Chemistry, Journal of Organic Chemistry, Chemical Research in Toxicology, Bioorganic & Medicinal Chemistry, Organic Bimolecular Chemistry, Biopolymer Peptide Science, Anti-Cancer Agents in Medicinal Chemistry, Molecules, Tetrahedron, Science China Chemistry, Journal Biochemistry, Journal of Biomolecular Structure & Dynamics, Current Organic Chemistry, Mini-Reviews in Medicinal Chemistry, Current Organic Synthesis, European Journal of Medicinal Chemistry, Chemistry a European Journal, Medicinal Chemistry Communications, Analytical Chemistry, Biochemistry, ChemBioChem, Chemical Communication, ChemistrySelect, Green Chemistry, Journal of Heterocyclic Chemistry.

Publications

1. Q. Zhang, Z. Lin, **X. Peng,** Synthesis and Photoreactivity of Binaphthalene Triphenylphosphonium Salts as Photo-Inducible DNA Cross-Linking Agents, *in preparation*.
2. S. Cao, Y. Wang, X. Peng, H_2O_2-Activated DNA Cross-linking Agents Capable of Releasing Multiple DNA Alkylators as New Anticancer Prodrugs, *ready for submission.*
3. H. Fan, H. Sun, **X. Peng*** Synthesis and Photo-Induced DNA Cross-Linking Assay of 1,1'-Biphenyl Analogues with a Variety of Leaving Groups. *Chem. Eur. J. ready for submission.*

4. H. Fan, W. Chen, A Uz Zaman, A. Campbell, Q. Zhang, N. I. Setu, N. M. Zahn, A. Benko, L. A. Arnold, **X Peng.***Assessment of ROS-Activated Phenylboronic Acid Nitrogen Mustards as Potent and Selective Drug Candidates for Triple Negative Breast Cancer Cells. *ACS Pharmacology & Translational Science,* **2020***,* under revision
5. H. Fan, **X. Peng**.* Photoinduced DNA Interstrand Cross-linking by Benzene Derivatives: Leaving Groups Determine the Efficiency of the Cross-Linker. *J. Org. Chem*, **2020**, accepted.
6. H. Fan, H. Sun, M. M. Haque, **X. Peng***. Effect of Triazole-Modified Thymidines on DNA and RNA Duplex Stability. *ACS Omega* **2019**, *4*, 5107−5116
7. W. Chen, H. Fan, K. Balakrishnan, Y. Wang, H. Sun, Y. Fan, V. Gandhi, L. A. Arnold, **X. Peng.*** Discovery and Optimization of Novel Hydrogen Peroxide Activated Aromatic Nitrogen Mustard Derivatives as Highly Potent Anticancer Agents. *J. Med. Chem*. **2018**, *61*, 9132−9145
8. Z. Lin, H. Fan, Q. Zhang, X. Peng. Design, Synthesis, and Biological Investigation of New Binaphthalene Precursors as Efficient Photo-Activated DNA Interstrand Cross-Linkers. *J. Org. Chem*. **2018**, *83*, 8815−8826.
9. H. Fan, H. Sun, X. Peng. Substituents Have a Large Effect on Photochemical Generation of Benzyl Cations and DNA Cross-Linking. *Chem. Eur. J*. **2018**, *24*, 7671 – 7682.
10. Y. Wang, H. Fan, K. Balakrishnan, Z. Lin, S. Cao, W. Chen, Y. Fan, Q. A. Guthrie, H. Sun, K. A. Teske, V. Gandhi, L. A. Arnold, X. Peng. Hydrogen Peroxide Activated Quinone Methide Precursors with Enhanced DNA Cross-Linking Capability and Cytotoxicity towards Cancer Cells. *Eur J Med Chem*. **2017**, *133*, 197-207.
11. H. Sun, H. Fan, H. Eom, X. Peng. Coumarin-Induced DNA Ligation, Rearrangement to DNA Interstrand Cross-Links, and Photo-Release of Coumarin Moiety. *ChemBioChem*. **2016**, *17*, 2046–2053.
12. Y. Wang, Z. Lin, H. Fan, X. Peng. Photo-Induced DNA Interstrand Cross-Link Formation by Naphthalene Boronates via a Carbocation. *Chem. Eur. J*. **2016**, *22*, 10382–10386.
13. Y. Wang, S. Liu, Z. Lin, Y. Fan, Y. Wang, X. Peng. Photochemical Generation of Benzyl Cations that Selectively Cross-Link Guanine and Cytosine in DNA. *Org. Lett*. **2016**, *18*, 2544–2547.
14. H. Fan, X. Peng. Novel DNA Cross-Linking Reagents. *Advances in Molecular Toxicology*, **2016**, *10*, 235-292.
15. Y. Han, W. Chen, Y. Kuang, H. Sun, Z. Wang, X. Peng. UV-Induced DNA Interstrand Cross-linking and Direct Strand Breaks from a New Type of Binitroimidazole Analogues. *Chem. Res. Toxicol*. **2015**, *28*, 915-926.
16. H. Sun, H. Fan, **X. Peng**.* Quantitative DNA Interstrand Cross-link Formation by Coumarin and Thymine: Structure Determination, Sequence Effect, and Fluorescence Detection. *J. Org. Chem*. **2014**, *79*, 11359-11369.
17. W. Chen, Y. Han, **X. Peng**.* Aromatic Nitrogen Mustard-Based Prodrugs: Activity, Selectivity, and the Mechanism of DNA Cross-linking. *Chem. Eur. J.* **2014**, *20*, 7410-7418.
18. W. Chen, K. Balakrishman, Y. Kuang, Y. Han, M. Fu, V. Gandhi, **X. Peng**.* Reactive Oxygen Species (ROS) Inducible DNA Cross-Linking Agents and Their Effect on Cancer Cells and Normal Lymphocytes. *J. Med. Chem*. **2014**, *57*, 4498-4510.
19. M. M. Haque, H. Sun, S. Liu, Y. Wang, **X. Peng**.* Photo-Switchable DNA Interstrand Cross-Link Formation by a Coumarin-Modified Nucleotide. *Angew. Chem. Int. Ed*. **2014**, *53*, 7001-7005.
20. S. Cao, Y. Wang, **X. Peng**.* The Leaving Group Strongly Affects $H_2O_2^-$Induced DNA Cross-Linking by Arylboronates. *J. Org. Chem.* **2014**, *79*, 501-508.
21. S. Cao, **X. Peng**.* Exploiting Endogenous Cellular Process to Generate Quinone Methides in vivo. *Curr. Org. Chem*. **2014**, *18*, 70-85.
22. M. M. Haque, **X. Peng**.* DNA Associated Click Chemistry. *Sci. China Chem*. **2014**, *57 (2)*, 215-231.
23. H. Sun, **X. Peng**.* Template-Directed Fluorogenic Oligonucleotide Ligation Using "Click" Chemistry: Detection of Single Nucleotide Polymorphism in the Human p53 Tumor Suppressor Gene. *Bioconjugate Chem*. **2013**, *24*, 1226−1234.

24. S. Cao, R. Christiansen, **X. Peng**.* Effects of Substituents and Leaving Groups on Formation of Quinone Methides from their Arylboronic Ester Precursors. *Chem. Eur. J.* **2013**, *19*, 9050-9058.
25. Y. Kuang, H. Sun, J. C. Blain, **X. Peng**.* Hypoxia-Selective DNA Interstrand Cross-Link Formation by Two Modified Nucleosides. *Chem. Eur. J.* **2012**, *18*, 12609-12613.
26. **X. Peng**,* V. Gandhi. ROS-Activated Anticancer Prodrugs: A New Strategy for Tumor-Specific Damage. *Therapeutic Delivery 3* **2012**, *7*, 823-833.
27. F. Seela, S. Budow, **X. Peng**. Chemistry of 7-Deazapurine (Pyrrolo[2,3-*d*]pyrimidine) 2'-Deoxyribonucleosides and Derivatives. *Curr. Org. Chem*, **2012**, *16*, 161-223.
28. C. Sheng, Y. Wang, **X. Peng**.* ROS-Inducible DNA Cross-linking Agent as a New Anticancer Prodrug Building Block. *Chem. Eur. J.* **2012**, *18*, 3850-3854.
29. Y. Kuang, Balakrishnan, K.; Gandhi, V.; **X. Peng**. * Hydrogen Peroxide Inducible DNA Cross-Linking Agents: Targeted Anticancer Prodrugs. *J. Am. Chem. Soc*. **2011**, *133*, 19278-19231.
30. F. Seela, S. Budow, K. Xu, **X. Peng**, H. Eickmeier. Halogenated 7-deazapurine 2'-C-methylribonucleosides. *Collect. Czech. Chem. Commun*. **2011**, *76*, 1413-1431.
31. **X. Peng**,* H. Li, M. Seidman. A Template-Mediated Click–Click Reaction: PNA–DNA, PNA–PNA (or Peptide) Ligation, and Single Nucleotide Discrimination. *Eur. J. Org. Chem.* **2010**, 4194–4197
32. A. Fulop, **X. Peng**, M. M. Greenberg, A. Mokhir. A nucleic acid-directed, red light-induced chemical reaction. *Chem. Comm.* **2010**, *46*, 5659-5661.
33. **X. Peng**; A. Ghosh; B. V. Houten; M. M. Greenberg. Nucleotide Excision Repair of a DNA Interstrand Cross-Link Produces Single and Double Strand Breaks. **2010**, *Biochemistry*, *49*, 11-19.
34. X. Peng, I. S. Hong, M. M. Greenberg. ORGN 335-DNA interstrand cross-linking by modified nucleotides: Mechanism and applications. ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY **2008**, *236*, 335-ORGN.
35. **X. Peng**, Y. Pigli, P. A. Rice, and M. M. Greenberg. Protein Binding has a Large Effect on Radical Mediated DNA Damage. *J. Am. Chem. Soc.* **2008**, *130*, 12890-12891.
36. D. Bastia, S. Zzaman, G. Krings, M. Saxena, **X. Peng**, and M. M. Greenberg. Replication Termination Mechanism as Revealed by Tus-mediated Polar Arrest of a Sliding Helicase. *Proc. Natl. Acad. Sci. USA* **2008**, *105*, 12831-12836.
37. **X. Peng**, I. S. Hong, H. Li, M. M. Seidman, and M. M. Greenberg. Interstrand Cross-link Formation in Duplex and Triplex DNA by Modified Pyrimidines. *J. Am. Chem. Soc.* **2008**, *130*, 10299-10306.
38. **X. Peng**, M. M. Greenberg. Facile SNP Detection Using Bifunctional, Cross-Linking Oligonucleotide Probes. *Nucleic Acids Res.* **2008**, *36*, e31.
39. **X. Peng**, F. Seela. An Efficient Synthesis of 7-Functionalized 7-Deazapurine β-D- or β-L-Ribonucleosides: Glycosylation of Pyrrolo[2,3-*d*]pyrimidines with 1-O-Acetyl-2,3,5-tri-O-benzoyl-D- or L-Ribofuranose. *Nucleosides, Nucleotides and Nucleic Acids*, **2007**, 26, 603-606.
40. F. Seela,* **X. Peng**,* K. Xu. Mismatch Discrimination of Base-Modified Nucleic Acids and their Constituents: Non-Watson-Crick Base Pairing Induced by Tautomerization. *Nucleosides, Nucleotides and Nucleic Acids*, **2007**, 26, 1569-1572.
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42. F. Seela,* **X. Peng**, H. Eickmeier, H. Reuter. 2'-Deoxy-2-fluorotubercidin. *Acta Cryts.*, **2007**, C63, 096.
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46. H. Li, **X. Peng**, P. Leonard, F. Seela. Binding of Actinomycin C_1 (D) and Actinomin to Base-modified Oligonucleotide Duplexes with Parallel Chain Orientation. *Bioorg. Med. Chem.* **2006**, *14*, 4089-4100.
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49. F. Seela,* **X. Peng**, H. Li, P. Chittepu, K. I. Shaikh, J. He, Y. He, I. Mikhailopulo. Modified DNA: From Synthesis to Molecular Recognition. *Collection Symposium Series* **2005**, 7, 1-20.
50. F. Seela,* **X. Peng**, X. Ming. 7-Deazapurin-2,6-Diamine and 7-Deazaguanine: Synthesis and Property of 7-Substituted Nucleosides and Oligonucleotides. *Nucleosides, Nucleotides & Nucleic Acids* **2005**, *24*, 839-841.
51. F. Seela,* W. Lin, Z. Kazimierczuk, H. Rosemeyer, V. Glacon, **X. Peng**, Y. He, X. Ming, M. Andrzejewska, A. Gorska, X. Zhang, H. Eickmeier, P. La Colla. L-Nucleosides Containing Modified Nucleobases. *Nucleosides, Nucleotides & Nucleic Acids* **2005**, *24*, 859-863.
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53. **X. Peng**, F. Seela.* Halogenated 7-Deazapurine Nucleosides: Stereoselective Synthesis and Conformation of 2'-Deoxy-2'-fluoro-*β*-D-arabinonucleosides. *Org. Biomol. Chem.* **2004**, *2*, 2838-2846.
54. F. Seela,* **X. Peng**. Regioselective Synthesis of Indazole N^1- and N^2-(β-D-Ribonucleosides). *Nucleosides, Nucleotides & Nucleic Acids* **2004**, *23*, 227-237.
55. F. Seela,* **X. Peng**, H. Eickmeier, H. Reuter. Regioisomeric 4-Nitroindazole N^1- and N^2-(*β*-D-ribonucleosides). *Acta Cryst.* **2004**, *C60*, 94-97.
56. H. Li, **X. Peng**, F. Seela.* Fluorescence Quenching of Parallel- stranded DNA Bound Ethidium Bromide: the Effect of 7-Deaza-2'-deoxyisoguanosine and 7-Halogenated derivatives. *Bioorg. Med. Chem. Lett.* **2004**, *14*, 6031-6034.
57. J. Liao, **X. Peng,** J. Zhang, K. Yu, X. Cui, J. Zhu, J. Deng. Facile Resolution of RacemicTerbutaline and a Study of Molecular Recognition through Chiral Supramolecules Based on Enantiodifferentiating Self-assembly. *Org. Biomol. Chem.* **2003**, *1*, 1080-1085.
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59. F. Chen, X. Ling, Y. Lu, X. Zhang, **X. Peng**. Studies on the Asymmetry Total Synthesis of *d*-Biotin (II). *Chem. J. Chinese U*. **2001**, *22*, 1141-1146.
60. F. Chen, X. Ling, Y. He, **X. Peng**. Tetrabutylammonium Peroxydisulfate in Organic Synthesis; XI. A Novel and Selective Approach to the Oxidative Deprotection of Ally Ethers with Tetrabutylammonium Peroxydisulfate. *Synthesis* **2001**, 1772-1774.

Reviews

1. F. Seela,* **X. Peng**, S. Budow. Advances in the Synthesis of 7-Deazapurine - Pyrrolo[2,3-*d*]pyrimidine 2'-Deoxyribonucleosides Including L-Enantiomers, Fluoro Derivatives, and 2',3'-Dideoxyribonucleosides. *Curr. Org. Chem*. **2007**, *11*, 427-462.
2. F. Seela,* **X. Peng**. Progress in 7-Deazapurine - Pyrrolo[2,3-*d*]pyrimidine - Ribonucleoside Synthesis. *Curr. Top. Med. Chem.* **2006**, *6*, 867-892.

Book Chapters

1. H. Fan, **X. Peng**,* Novel DNA Cross-Linking Agents and Their Applications, in "*Advances in Molecular Toxicology Volume 10", Ed. J. Fishbein, Elsevier*, **2016**, 10, 235-292.
2. F. Seela,* **X. Peng**. Base-modified Oligodeoxyribonucleotides: Pyrrolo[2,3-*d*]pyrimidines Replacing Purines, *in 'Current Protocols in Nucleic Acid Chemistry', Eds. S. L. Beaucage, D. E. Bergstrom, G. D. Glick, R. A. Jones, John Wiley & Sons*, **2005**, 4.25.1-4.25.24.
3. F. Seela,* **X. Peng**. Pyrrolo[2,3-*d*]pyrimidines: Synthesis and Properties of 2'-Deoxyribonucleosides *in 'Current Protocols in Nucleic Acid Chemistry', Eds. S. L. Beaucage, D. E. Bergstrom, G. D. Glick, R. A. Jones, John Wiley & Sons*, **2005**, 1.10.1-1.10.20.

Invited talks

1. **X. Peng**, "Out of Africa? Migration of modern humans". Invited talk Presented at the Wisconsin Science Olympiad, April 4-5, **2019**, Milwaukee, WI, USA.
2. **X. Peng**, "Hydrogen Peroxide Activated DNA Cross-Linking Agents and Their Biomedical Application". Invited talk Presented at the 254th American Chemical Society National Meeting, Aug 20 – 24, **2017**, Washington, DC, USA.
3. **X. Peng**. "Novel Anticancer Pro-Drugs Activated by Hydrogen Peroxide". Invited talk presented to the first annual Central Collaboratory Event, October 6, **2016**, Milwaukee, WI, USA.
4. **X. Peng**. "Novel Anticancer Pro-Drugs Activated by Hydrogen Peroxide". Invite talk presented to Milwaukee Quick Pitch: A First Look Forum Event, May 5, **2016**, Milwaukee, WI, USA**.**
5. **X. Peng**. "ROS-Activated DNA Cross-Linking Agents and Their Medical Application" Presented to Department of Medicinal Chemistry, University of Minnesota, Minneapolis, MN, March 29, **2016**.
6. **X. Peng**. "Boron-Based Anticancer Prodrugs that Target Tumor Cells under Oxidative Stress" Presented to Pacificchem 2015, Hawaii, December 17, **2015**.
7. **X. Peng**. Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs. Invited talk at The 11th Sino-US Chemistry Professors Conference, June 21-23, **2015**, Suzhou, China.
8. **X. Peng**. Inducible DNA Cross-Linking Agents and Their Medical Application Presented to Chemistry Department, East China Normal University, China, June 23, **2015**.
9. **X. Peng**. "Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs" Presented to Chemistry Department, Knox College, January 29, **2015**.
10. **X. Peng**. "Hydrogen Peroxide Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs" Presented to Chemistry Department, Jiangxi Normal University, Nanchang, Jiangxi, China, June 20, **2014**.
11. **X. Peng**. "Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs" Presented to Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, Jilin, June 18, **2014**
12. **X. Peng**. "Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs" Presented to Chemistry Department, Washington University, St. Louis, MO, May 22, **2014**.
13. **X. Peng**. "Hydrogen Peroxide Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs" Presented to Chemistry Department, University of Missouri, Columbia, MO, May 21, **2014**.
14. **X. Peng**. "ROS-Inducible DNA cross-linking agents and their potential applications for cancer therapy" Presented to the 4th International Conference and Exhibition on Pharmaceutics &Novel Drug Delivery Systems, San Antionio, TX, March 24-26, **2014**.
15. **X. Peng**. "ROS-Inducible DNA Cross-Linking Agents as Targeted Anticancer Agents" Presented to the Chemistry Department, University of California Riverside, Riverside, CA, April 10, **2014**.
16. **X. Peng**. Radiation-Activated DNA Damaging Agents: Design, Synthesis, and Application. Medical College Wisconsin, WI, May 18, **2013**,.
17. **X. Peng**. Radiation-Activated DNA Damaging Agents That Target Tumor Hypoxia. May 17, **2012**, Medical College Wisconsin, USA.
18. **X. Peng**. The 2010 NIH mentoring workshop for new faculty in organic chemistry and chemical biology, Dallas, Texas, 05/22-24/**2010**.
19. **X. Peng**. DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. *Seminar*, Syracuse University, NY, U.S.A., **2009**.
20. **X. Peng**. DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. *Seminar*, George Mason University, U.S.A., **2009**.
21. **X. Peng**. DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. *Seminar*, Department of Chemistry and Biochemistry, University of Wisconsin Milwaukee, WI, U.S.A., **2009**.
22. **X. Peng**, I. S. Hong, and M. M. Greenberg. DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. *Seminar*, College of Pharmacy, University of Minnesota, MN, U.S.A., **2008**.
23. **X. Peng** and M. M. Greenberg. DNA Interstrand Cross-linking by Modified Nucleotides. *Seminar*, University of Louisville, KY, U.S.A., **2008**.

Conference presentations

1. Q. Zhang, Z. Lin, **X. Peng**. "The Effects of Leaving Groups or Substituents on DNA Interstrand Cross-link Formation Induced by Binaphthalene Analogues." Poster presented at the 258th American Chemical Society National Meeting, Aug 25-29, 2019, San Diego, CA, USA (*Travel Award from the Biology Chemistry Division of the ACS and Graduate Student Travel Award of University of Wisconsin-Milwaukee for ACS fall 2019 national meeting*).

2. A. Zaman, H. Fan, A. Campbell, **X. Peng**. "In vivo efficacy study of reactive oxygen species (ROS) inducible anticancer agent". Poster to be presented at the 258th American Chemical Society National Meeting, Aug 25 – 29, **2019**, San Diego, CA, USA.

3. A. Zaman, **X. Peng**. "DNA interstrand cross-link formation by anthracene analogues". Poster to be presented at the 258th American Chemical Society National Meeting, Aug 25 – 29, **2019**, San Diego, CA, USA.

4. Q. Zhang, Z. Lin, **X. Peng**. "The Effects of Leaving Groups or Substituents on DNA Interstrand Cross-link Formation Induced by Binaphthalene Analogues." Poster presented at Chemistry & Biochemistry Research Symposium in University of Wisconsin-Milwaukee, Apr 26th, **2019**, Milwaukee, WI, USA.

5. A. Campbell, **X. Peng**, J. Aldstadt. "Substituent Effects on Photo -Induced DNA Interstrand Cross-Link Formation Via Carbocation." Poster presented at the American Chemical Society Great Lakes Regional Meeting, May 2nd, **2019**, Listle, IL, USA.

6. A. Campbell, H. Fan, Q. Zhang, A. Zaman, **X. Peng**, J. Aldstadt. "Reactive Oxygen Species (ROS) Activated Nitrogen Mustard Derivatives." Poster presented at the UWM Chemistry & Biochemistry Department Annual Research Symposium, April 26th, 2019, Milwaukee, WI, USA.

7. Z. Lin, Q Zhang, **X. Peng**. "Substituent Effects on Photo-induced Cross-Link in DNA Formation by Naphthalene Precursors via a Carbocation". Poster presented at The UW system chemistry faculties meeting, Sep. 29-20, **2017**.

8. H. Fan, **X. Peng**. "Substituent Effects on Photo -Induced DNA Interstrand Cross-Link Formation Via Carbocation" Poster presented at The UW system chemistry faculties metting, Sep. 29-20, **2017**.

9. **X. Peng**, "Hydrogen Peroxide Activated DNA Cross-Linking Agents and Their Biomedical Application". Invited talk Presented at the 254th American Chemical Society National Meeting, Aug 20 – 24, **2017**, Washington, DC, USA.

10. H. Fan, **X. Peng**. "Substituent Effects on Photo -Induced DNA Interstrand Cross-Link Formation Via Carbocation". Poster presented at the 254th American Chemical Society National Meeting, Aug 20 – 24, **2017**, Washington, DC, USA.

11. H. Fan, **X. Peng**. "Substituent Effects on Photo -Induced DNA Interstrand Cross-Link Formation Via Carbocation". Poster presented at the Chemistry and Biochemistry Department Annual Research Symposium, University of Wisconsin-Milwaukee, May 23, **2017**, Milwaukee, WI, USA.

12. J. Grahl, N. Williams, **X. Peng**, H. Fan. "In Vivo Testing of H_2O_2-Activated Arylboronate Anticancer Drugs". Poster presented at The Annual UWM Undergraduate Research Symposium, University of Wisconsin-Milwaukee, April 28, **2017,** Milwaukee, WI, USA.

13. H. Fan, Y. Wang, **X. Peng**.* "Discovery and Optimization of Novel Hydrogen Peroxide Activated Quinone Methide Precursors". Poster presented at the Chemistry and Biochemistry Department Annual Research Symposium, University of Wisconsin-Milwaukee, May 20, **2016**, Milwaukee, WI, USA.

14. **X. Peng**. "Novel Anticancer Pro-Drugs Activated by Hydrogen Peroxide". Invite talk presented to Milwaukee Quick Pitch: A First Look Forum Event, May 5, **2016**, Milwaukee, WI, USA.

15. **X. Peng**. "Novel Anticancer Pro-Drugs Activated by Hydrogen Peroxide". Invited talk presented to the first annual Central Collaboratory Event, October 6, **2016**, Milwaukee, WI, USA.

16. **X. Peng**. "Boron-Based Anticancer Prodrugs that Target Tumor Cells under Oxidative Stress". Invited talk presented to Pacificchem, December 17, **2015**, Hawaii.

17. Q. Guthrie, Y. Wang, **X. Peng**. "The Synthesis of H2O2-Inducible DNA Cross-linking Agents With Different Substituent". Poster presented at The Annual UWM Undergraduate Research Symposium, University of Wisconsin-Milwaukee, April 24, **2015,** Milwaukee, WI, USA.

18. Q. Guthrie, Y. Wang, **X. Peng**. "Increasing Anticancer Prodrugs Selectivity: The Synthesis of Hydrogen Peroxide-Inducible DNA Cross-Linking Agents with Different Substituent Groups". Poster presented at the 2015 Annual Biomedical Research Conference for Minority Students, November 11-14, **2015,** Seattle, WA.

19. **X. Peng**. Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs. Invited talk at The 11th Sino-US Chemistry Professors Conference, June 21-23, **2015**, Suzhou, China.

20. **X. Peng**. ROS-Activated DNA Interstrand Cross-linking Agents: Design, Synthesis, and Biological Investigation. *Contributed talk* at the *248th American Chemical Society National Meeting*, August 10 – 14, **2014**, San Francisco, California, USA.

21. **X. Peng**. Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs. *Invited* talk at The 10th Sino-US Chemistry Professors Conference, June 15-17, **2014**, Jinan, Shangdong, China.

22. H. Sun, **X. Peng**.* Highly efficient, directly detectable, and photoreversible DNA interstrand cross-linking by coumarin derivatives. *Poster* presented at the *248th American Chemical Society National Meeting*, August 10 – 14, **2014**, San Francisco, California, USA.

23. M. M. Haque, **X. Peng**.* Photoswitchable DNA Interstrand Cross-link Generation by a Coumarin-Modified Pyrimidine. *Poster* presented at the *247th American Chemical Society National Meeting*, March 16 – 20, **2014**, Dallas, Texas, USA.

24. **X. Peng**,* Y. Han, B. L. Fish, Y. Kuang, H. Sun, J. Narayanan, M. Medhora, J. E. Moulder. New Radiation-Activated Antitumor Agents that Target Hypoxia. *Poster* presented at *The Looking Back, Moving Forward* conference hosted by the Advancing a Healthier Wisconsin Endowment *at the Medical College of Wisconsin*, May 8, **2014**, Milwaukee, Wisconsin, USA.

25. W. Chen, **X. Peng**.* DNA Cross-Linking Agents induced by Hydrogen Peroxide with a Good Selectivity on Cancer Cells. *Poster* presented at *The 6th Yao Yuan Biotech-Pharma Symposium: Academic-Industry Connections for Drug Discovery*, March 8, **2014**, Chicago, Illinois, USA.

26. Y. Wang, **X. Peng**.* The Leaving Group And Substituent Greatly Affects H2O2-Induced DNA Cross-Linking by Arylboronates. *Poster* presented at *The 6th Yao Yuan Biotech-Pharma Symposium: Academic-Industry Connections for Drug Discovery*, March 8, **2014**, Chicago, Illinois, USA.

27. H. Sun, **X. Peng**.* Selective Labeling of DNA Using Coumarin Moieties. *Poster* presented at *The 6th Yao Yuan Biotech-Pharma Symposium: Academic-Industry Connections for Drug Discovery*, March 8, **2014**, Chicago, Illinois, USA.

28. **X. Peng,*** Y. Han, B. L. Fish, Y. Kuang, H. Sun, J. Narayanan, M. Medhora, J. E. Moulder. New Radiation-Activated Antitumor Agents That Target Hypoxia. *Poster* presented at *The 6th Yao Yuan Biotech-Pharma Symposium: Academic-Industry Connections for Drug Discovery*, March 8, **2014**, Chicago, Illinois, USA.

29. Y. He, Y. Zheng, **X. Peng**. The development of DB02 as high active anti-HIV agents. *Poster* presented at *The 6th Yao Yuan Biotech-Pharma Symposium: Academic-Industry Connections for Drug Discovery*, March 8, **2014**, Chicago, Illinois, USA.

30. X. Peng,* W. Chen, and V. Gandhi. ROS-Inducible DNA Cross-Linking Agents as Selective Anticancer Drugs. Gordon Research Conference: Nucleosides, Nucleotides & Oligonucleotides. July 1 – July 5, 2013, Salve Regina University, Newport, RI.

31. Y. He, X. Peng,* and D. Frick. Novel anti-HIV/HCV agents. Gordon Research Conference: Nucleosides, Nucleotides & Oligonucleotides. July 1 – July 5, 2013, Salve Regina University, Newport, RI.
32. X. Peng, Y. Han, B. L. Fish, Y. Kuang, H. Sun, J. Narayanan, M. medhora, J. E. Moulder. New Hypoxic Radiosensitizers as Targeted Anticancer Agents. MCW First Annual Cancer Center Scientific Retreat. May 03, **2013**, Milwaukee, WI, USA.
33. Y. Kuang, S. Cao, Y. Wang, and X. Peng. ROS-Activated DNA Cross-Linking Agents as Targeted Anticancer Drugs. Poster presented at the *XX International Roundtable on Nucleosides, Nucleotides and Nucleic Acids*, August 05-09, 2012, Montreal, Canada.
34. R. Christiansen, S. Cao and X. Peng. H_2O_2-Inducible Quinone Methide Formation and the Effect of Substituents. *The National Conference of Undergraduate Research*, March 29-31, **2012**, Weber St University, Ogden, Utah.
35. S. Cao, **X. Peng**.* ROS-inducible DNA cross-linking agent as a new anticancer prodrug building block. 244nd American Chemical Society National Meeting. August 19 – 23, **2012**, Philadelphia, PA, USA.
36. W. Chen, **X. Peng**.* ROS-Inducible DNA Cross-Linking Agents with Good and Selective Antitumor Activity on Cancer Cells. August 19 – 23, **2012**, Philadelphia, PA, USA.
37. H. Sun, **X. Peng**.* Detection of Tumor's Mutated Nucleic Acids with Fluorogenic "Click" Reaction. August 19 – 23, **2012**, Philadelphia, PA, USA.
38. Y. Kuang, H. Sun, **X. Peng.*** Hypoxia-selective DNA Interstrand Cross-Link Formation by Two Modified nucleosides. *XX International Roundtable on Nucleosides, Nucleotides and Nucleic Acids*, August 05-09, 2012, Montreal, Canada.
39. H. Sun, **X. Peng**.* Detection of Tumor's Mutated Nucleic Acids with Fluorogenic "Click" Reaction. *Poster* presented at the *Chemistry Department Awards Day*, University of Wisconsin-Milwaukee, Milwaukee, WI, **2012**

40. Y. Kuang and **X. Peng**.* DNA Interstrand cross-link formation by two modified pyrimidine nucleosides. 242nd American Chemical Society National Meeting. August 28 – September 1, **2011**, Denver,

Colorado.

41. **X. Peng.*** Hypoxia-selective DNA interstrand cross-Link formation by a modified nucleoside. *BIT's 2nd Annual International Conference of Medichem*. August 9 – August 11, **2011**, Beijing, China.
42. **X. Peng*** and Y. Kuang. Hypoxia-selective DNA interstrand cross-Link formation by a modified nucleoside. *Gordon Research Conference: Nucleosides, Nucleotides & Oligonucleotides.* July 3 – July 8, **2011**, Salve Regina University, Newport, RI.
43. **X. Peng**.* A highly efficient method for DNA and PNA ligation via click chemistry. *XIX International Round Table on Nucleosides, Nucleotides and Nucleic Acids*, 29th August - 3rd September, **2010**, Lyon, France.
44. **X. Peng**, I. S. Hong, and M. M. Greenberg.* ORGN 335-DNA interstrand cross-linking by modified nucleotides: Mechanism and applications. *Abstracts of Papers of the American Chemical Society* **2008**, *236*, meeting abstract: 335-ORG
45. **X. Peng**, I. S. Hong, and M. M. Greenberg.* DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. Chemical Insights into Biological Process, Frederick, MD, **2008**.
46. **X. Peng**, I. S. Hong, and M. M. Greenberg.* DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. Oral presentation at 236th American Chemical Society National Meeting, Philadelphia, August, **2007**, PA.
47. **X. Peng** and M. M. Greenberg.* DNA Interstrand Cross-linking by Modified Nucleotides: Mechanism and Applications. *Chemistry-Biology Interface Program Retreat*. 29 th, September **2007**, Baltimore, USA (**Poster Award**).
48. **X. Peng** and F. Seela.* An Efficient Synthesis of 7-Functionalized 7-Deazapurine β-D or β-L-Ribonucleosides: Glycosylation of Pyrrolo[2,3-*d*]pyrimidines with 1-*O*-Acetyl-2,3,5-tri-*O*-benzoyl-D- or L-Ribofuranose. *XVII International Roundtable on Nucleosides, Nucleotides and Nucleic Acids*, 3 - 7 September **2006**, Bern, Switzerland.
49. F. Seela* and **X. Peng**. Mismatch Discrimination of Base-Modified DNA: Non-Watson-Crick Base Pairing Induced by Protonation or Tautomerization. *XVII International Roundtable on Nucleosides, Nucleotides and Nucleic Acids*, 3 - 7 September **2006**, Bern, Switzerland.
50. F. Seela,* **X. Peng**, H. Li, P. Chittepu, K. I. Shaikh, J. He, Y. He, I. Mikhailopulo. Modified DNA: From Synthesis to Molecular Recognition. *Chemistry of Nucleic Acid Components XIII Symposium*, Špindlerův Mlýn, Czech Republic, **2005**/09/03-09
51. F. Seela*, **X. Peng** and X. Ming. 2,6-Diamin-7-deazapurine and 7-Deazaguanine: Synthesis and Properties of 7-Substituted Nucleosides and Oligonucleotides. *XVI International Roundtable on Nucleosides, Nucleotides & Nucleic Acids*, Minnesota, USA, **2004**.9.13-16.

Patents

1. X. Peng. Innovative strategy for tumor-selective activation of ROS-activated DNA crosslinking Agent, Invention disclosure, University of Wisconsin Milwaukee, Submitted, IP-0034, **2020**.
2. X. Peng, Y. Kuang, S. Cao, W. Chen, Y. Wang. Anticancer Agents. United States Patent US 2014/0200250 A1, Pub date, **07/17/2014**.
3. X. Peng, Y. Kuang, S. Cao, W. Chen, Y. Wang. Anticancer Drugs. United States Patent US 8637490B2, **2014**.
4. X. Peng, Y. Kuang, S. Cao, Y. Wang. New Anticancer Agents Targeting the Tumor Microenvironment. Invention disclosure, OTT ID #1277, **2011**.
5. X. Peng. Template-Dependent PNA-DNA Ligation Using Click Chemistry and its Application. Invention disclosure, University of Wisconsin Milwaukee, OTT ID #1218, **2011**.
6. F. Chen, **X. Peng**, G. Sun. Process for preparing (3as, 6ar)-1,3-dibenzyl-tetrahydro-4h-thiophenebin (3,4-d) imidazolium-2,4-(1h)-diketone. Chinese Patent, Series No. 01142644, issued on Jul. 17, 2002.
7. J. Deng, **X. Peng**, X. Cui, F. Fu, J. Zhu, Y. Chi, and Y. Jiang. The preparation of Lansoprazole with high optical purity by chiral inclusion complexation. Chinese Patent, Series No. 1329003, issued on Jan. 2, 2002.
8. J. Deng, **X. Peng**, Z. Hua, T. Wu, F. Fu, X. Cui, and L. Yang. Process for preparing adrenin beta-excitomotors by combinaion and disconnection method. Chinese Patent, Series No. 1273966, issued on Nov. 22, 2000.
9. J. Deng, Y. X. Chi, J. Zhu, **X. Peng**, Y. Jiang, F. Fu, X. Cui. Inclusion and resolution preparation process

of optical purity benzimidazoles medicines resisting peptic ulcer. Chinese Patent, Series No. 1223262, issued on Jul. 21, 1999.

Grants, contracts, and awards

1. Wisconsin Applied Research Grant
   Proposal Title: ROS-Activated Prodrugs That Target Cancer Cells
   PI: Xiaohua Peng
   Co-I: Alexander L. Arnold
   Type: Research Grant
   Grant amount: $50,000
   Period: 07/01/2018-06/30/2019

2. Research Growth Initiative (UWM)
   Proposal Title: Hydrogen Peroxide Activated Quinone Methide Prodrugs for Tumor-Specific Destruction
   PI: Xiaohua Peng
   Co-I: Alexander L. Arnold
   Type: Research Grant
   Grant amount: $189,892
   Period: 07/01/2015 – 06/30/2017

3. Wisconsin Applied Research Grant
   Proposal title: "DNA-Templated Metal-Free Flurogenic "Click" Reactions for Sequence-Specific DNA Detection and PCR-Free Signal Amplification."
   Principal Investigator (**PI**): **Xiaohua Peng**
   Grant amount: $48,500 (Peng 100%)
   Funding period: 07/01/2014 – 06/30/2015)

4. UWM Research Foundation Catalyst Grant Program
   Proposal title: "The pharmacokinetics and *In vivo* efficacy of ROS-activated anticancer prodrugs"
   PI: Xiaohua Peng with Co-investigator Dr. Alexander Arnold
   Amount requested: $60,000

   Period: 07/01/2014 -06/30/2015

5. Clinical and Translational Science Institute of Southeast Wisconsin (**133-PRJ71EF)**
   Proposal title: "New Hypoxia Radiosensitizers as Targeted Anticancer Agents"
   PI: **Xiaohua Peng** with Co-investigators Meethat Medhoe, John Moulder, Medical College of Wisconsin
   Grant amount: $50,000 (Peng 50%)
   Period: 04/01/2013 –3/31/2014

6. Greater Milwaukee Foundation Shaw Scientist Award (**133-PRJ63QE)**
   Proposal title: "ROS-Activated DNA Damaging Agents: Targeted Anticancer Drugs"
   PI: **Xiaohua Peng**
   Grant amount: $200,000 (Peng 100%)
   Period: 07/ 01/2012 -06/ 30/2016

7. UWM Research Growth Initiative (101X234)
   Proposal title: "Achieving Turnover in DNA-Templated Fluorogenic "Click" Ligation for Sequence-Specific DNA Mutation Detection."
   PI: Xiaohua Peng
   Grant amount: $168,930 (Peng 100%)

Funding period: 07/01/2012-06/30/2014

8. National Institutes of Health (144-PRJ37UJ)
   Project title: "New Radiation-Activated Antitumor agents that Target Hypoxia"
   PI: Xiaohua Peng
   Grant amount: $358,507 (Peng 100%)
   Period: 07/01/2010 – 06/30/2015

Proposals submitted but not funded.

Year 2020

1. UWM Discover Innovation Grant, Proposal title: "Novel ROS-Activated Prodrugs for Targeting Triple-Negative Breast Cancer Cells, **PI: Xiaohua Peng,** Amount requested: $124,999, Period: 07/01/21 – 12/31/22. Date submitted: 10/20/2020, Under review.

2. Department of Defense, Proposal title: "ROS-Activated Prodrugs for Targeting Triple-Negative Breast Cancer Cells", **PI: Xiaohua Peng,** Amount request: $670,896, Period: 10/1/2020 – 09/30/2023, Date submitted: 03/28/2020, **Not funded**

Year 2019:

3. UWM Discover Innovation Grant, Proposal title: "Targeting Triple Negative Breast Cancer with New ROS-Activated Prodrugs", **PI: Xiaohua Peng,** Amount requested: $125,000, Period: 07/01/20 – 12/31/21, Date submitted: 10/14/2019 (MIL 116063)

4. Department of Defense. Proposal title: "Targeting Triple-Negative Breast Cancer Cells with ROS-Activated Prodrugs", **PI: Xiaohua Peng** with Co-investigator Dr. Alexander Arnold, Amount request: $670,896, Period: 10/1/2019 – 09/30/2022, Date submitted: 03/28/2019 (MIL 115351), **Not funded.**

5. National Institution of Health, Proposal title: "New ROS-Activated Anticancer Agents for Triple Negative Breast Cancer Treatment", **PI: Xiaohua Peng** with Co-investigator Dr. Alexander Arnold, Amount requested: $147,632, Period: 04/01/20 – 03/31/22, Date submitted: 06/28/2019 (MIL 115651), **Not funded.**

Year 2018:

6. Department of Defense, Proposal title: "ROS-Activated Prodrugs for Targeting Breast Cancer Cells", **PI: Xiaohua Peng,** Amount request: $556,896, Period: 10/1/2018 – 09/30/2021, Date submitted: 05/30/2018 (MIL 114353), **Not funded**

Year 2017:

7. National Institutes of Health, Proposal title: "The pharmacokinetics and in vivo efficacy of ROS-activated anticancer prodrugs", **PI: Xiaohua Peng** with Co-investigator Dr. Alexander Arnold, Amount requested: $145,342, Period: 07/01/2017 – 09/30/2019, Submission date: 10/28/2017, **Not funded.**

Year 2016:

8. U.S. Trust, the Falk Medical Research Trust Catalyst Award, Proposal title: "The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs", **PI: Xiaohua Peng,** Amount requested: $400,000, Period: 11/30/16 – 11/29/17), Date submitted: 09/01/2016, **Not funded.**

9. National Institution of Health, Proposal title: "The pharmacokinetics and in vivo efficacy of ROS-activated anticancer prodrugs". PI: **PI: Xiaohua Peng** with Co-investigator Dr. Alexander Arnold, Amount requested: $145,342, Period: 07/01/17 – 06/30/19, Date submitted: 10/28/2016 (MIL 112608), **Not funded.**

Year 2015:

10. U.S. Trust, the Falk Medical Research Trust Catalyst Award, Proposal title: "The pharmacokinetics and in vivo efficacy of ROS-activated anticancer prodrugs", **PI: Xiaohua Peng** with Co-investigator Dr.

Alexander Arnold, Amount requested: $400,000 (Peng 100%), Period: 11/30/2015 – 11/29/2016, Submission date: 09/01/2015, **Not funded.**

11. National Institutes of Health, Proposal title: "The pharmacokinetics and in vivo efficacy of ROS-activated anticancer prodrugs", **PI: Xiaohua Peng** with Co-investigator Dr. Alexander Arnold, Amount requested: $144,798 (Peng 100%), Period: 05/01/2016 – 04/30/2018, Submission date: 10/27/2015, **Not funded.**

Year 2014:

12. American Cancer Society, Proposal title: "ROS-Activated Prodrugs that Target Cancer Cells", **PI: Xiaohua Peng** with Co-investigator, Varsha Gandhi, MD Anderson Cancer Center, Amount requested: $792,000 (Peng 70%), Period: 07/01/2015 – 06/30/2018, **Scored as outstanding, listed as "pay-if" grant.**

13. Research Scholar Grant National Science Foundation, Proposal title: "CAREER: Reagentless DNA-Templated Fluorogenic Reactions: Sequence-Specific DNA Detection and PCR-Free Signal Amplification", **PI: Xiaohua Peng,** Amount requested: $400,011 (Peng 100%), Period: 06/01/2015 – 5/31/202012, Submission date: 07/23/2014

14. National Institutes of Health, Project title: "Dual Acting Non-nucleoside Inhibitors to Treat HIV/HCV Co-Infections", PI: David Frick; **Co-PIs: Xiaohua Peng** and Nicholas R Silvaggi, Amount requested: $411,125 (Peng 30%), Period: 09/01/2014 -08/31/2016.

15. SE Wisconsin Applied Chemistry Center of Excellence Translational Grant, Proposal title: "DNA-Templated Metal-Free Fluorogenic Click Reactions for Sequence-Specific DNA Detection and PCR-Free Signal Amplification", **PI: Xiaohua Peng,** Amount requested: $100,000 (Peng 100%), Period: 05/01/2014 – 6/30/2015, Submission date: 03/14/2014

Year 2013:

16. National Science Foundation, Proposal title: "MRI: Acquisition of a 600 MHz Nuclear Magnetic Resonance spectrometer for Chemical and Biochemical research", **PIs: Xiaohua Peng**; Co-PIs: James M. Cook; Jian Chen; Alexander Arnold; F. Holger FÖrsterling, Amount requested: $1,277,065, Period: 10/01/2013 - 09/30/2016, Submission date: 02/21/2013.

17. National Institutes of Health, Proposal title: "Novel prodrug approaches for tumor-specific destruction", **PI: Xiaohua Peng,** Amount requested: $2,800,000 (Peng 70%), Period: 04/01/2014 - 03/31/2019, Submission date: 06/06/2013.

18. UWM Research Foundation Catalyst Grant Program, Proposal title: "New Hypoxia Radiosensitizers as Targeted Anticancer Agents", **PI: Xiaohua Peng,** Amount requested: $60,000 (Peng 100%), Period: 07/01/2013 - 06/30/2014, Submission date: 05/06/2013.

19. National Science Foundation, Proposal title: "CAREER: DNA-Templated Fluorogenic Reaction: DNA Mutation Detection and Signal Amplification", **PI: Xiaohua Peng,** Amount requested: $400,008 (Peng 100%), Period: 06/01/2014 – 5/31/2019, Submission date: 07/22/2013.

20. UWM Research Growth Initiative 9, Proposal title: "Novel anticancer prodrug approaches for tumor-specific destruction", PI: David Frick (admin. PI), **Co-PI: Xiaohua Peng,** Amount requested: $134,600 (Peng 50%), Period: 07/01/2014 – 06/30/2015, Submission date: 10/05/2013

Year 2012:

21. UWM Research Foundation Catalyst Grant Program, Proposal title: "New triggers for the development of ROS-activated anticancer prodrugs", **PI: Xiaohua Peng,** Amount requested: $75,000 (Peng 100%), Period: 07/01/2012 - 06/30/2013, Submission date: 04/17/2012.

22. Defense Health Program, Department of Defense Congressionally Directed Medical Research Program, Proposal title: "Novel anticancer prodrug approaches for tumor-specific destruction", **PI: Xiaohua Peng,** Amount requested: $375,000 (Peng 100%), Period: 01/01/2013 - 12/30/2016, Submission date: 08/15/2012.

23. National Science Foundation, Proposal title: "CAREER: Sequence-Specific Detection of Mutation by DNA-Templated Fluorogenic Reaction and Signal Amplification", **PI: Xiaohua Peng,** Amount requested: $400,000 (Peng 100%), Period: 01/01/2013 – 12/31/2017, Submission date: 07/25/2012.
24. UWM Research Growth Initiative 8, Proposal title: "Novel anticancer prodrug approaches for tumor-specific destruction", **PI: Xiaohua Peng,** Amount requested: $168,000 (Peng 100%), Period: 07/01/2013 – 06/30/2014, Submission date: 10/05/2012.
25. Clinical and Translational Science Institute of Southeast Wisconsin, Pilot Award, Proposal title: "The Role of Oxidative Stress Induced Cellular Injury in BCG's Antitumor Activity", PI: William See (Medical College of Wisconsin); **Co-Investigator: Xiaohua Peng,** Amount requested: $50,000 (Peng 5%), Period: 04/01/2013 – 03/31/2014, Submission date: 08/01/2012

Year 2011:

26. Greater Milwaukee Foundation Shaw Scientist Program, Proposal title: "New Anticancer Agents That Target Tumor-specific Microenvironments: Design, Synthesis, and Biological Investigation", **PI: Xiaohua Peng,** Amount requested: $200,000 (Peng 100%), Period: 07/01/2011 - 06/30/2016, Submission date: 01/18/2011.
27. National Institutes of Health, Proposal title: "A combinatorial approach for the development of novel HIV TAR cleaving agents/PA10-064", PIs: Haidong Huang (admin. PI); **Co-PI: Xiaohua Peng,** Period: 01/01/2012 - 12/31/2014, Amount requested: $150,880 (Peng 40%), Submission data: 05/15/2011.
28. American Cancer Society, Research Scholar Grant, Proposal title: "ROS-Activated Prodrugs that Target Cancer Cells", **PI: Xiaohua Peng,** Amount requested: $ 960,000, Period: 07/01/12 – 06/30/16, Submission date submitted: 10/15/2011.
29. ENDENCE, Proposal title: "Development of ROS-activated anticancer drugs by coupling NDC-1308 with ROS-responsive trigger", **PI: Xiaohua Peng,** Amount requested: $21,936.99 (Peng 100%), Period: 01/01/2012-12/30/2012, Submission date: 12/01/2011.
30. UWM Research Foundation Catalyst Grant Program, Proposal title: "DNA-amplified Detection of Single Nucleotide Polymorphism Using Fluorogenic Hybridization Chain Reaction", **PI: Xiaohua Peng,** Amount requested: $75,000, Period: 07/01/2010 -06/30/2011, Submission date: 04/09/2011

Year 2010:

31. UWM Research Foundation Catalyst Grant Program, Proposal title: "Single Nucleotide Polymorphism Detection in Double-Stranded DNA Targets Using Template-Dependent PNA Ligation", **PI: Xiaohua Peng,** Amount requested: $75,000 (Peng 100%), Period: 07/01/2010 - 06/30/2011, Submission date: 04/09/2010.
32. UWM Research Growth Initiative 2, Proposal title: "Development and Application of Template-dependent Fluorogenic Click Ligation for Sequence-specific DNA Detection", **PI: Xiaohua Peng,** Amount requested: $177,079 (Peng 100%), Period: 07/01/11 – 06/30/12, Submission date: 10/05/2010

Year 2009:
33. UWM Research Growth Initiative, Proposal title: "New hypoxia-targeting antitumor agents: design, synthesis and biological investigation", **PI: Xiaohua Peng,** Amount requested: $184,399 (Peng 100%), Period: 07/01/10 – 06/30/11, Submission date: 10/05/2009.

Student SURF awards (total: $26,580).

1. Xiaohua, Peng (PI), Robin J. Christiansen (Undergraduate Student) Sponsored Research, *"Development of ROS-activated anticancer prodrugs*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $3,200.00, Funded. (January 2012-May 2012)
2. Xiaohua, Peng (PI), Robin J. Christiansen (Undergraduate Student) Sponsored Research, *"Effects of Substituents on Formation of Quinone Methides from their Arylboronic Ester Precursors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $3,000.00, Funded. (June 2012-August 2012)

3. Xiaohua, Peng (PI), Matthew James Haney (Undergraduate Student) Sponsored Research, *"Synthesis of 4-nitroimidazole-modified thymidine*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $2,000.00, Funded. (June 2012-August 2012)
4. Xiaohua, Peng (PI), Hyeyoung Eom (Undergraduate Student) Sponsored Research, *"Coumarin derivatives: Synthesis, Photochemistry, and future application in DNA*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $2,500.00, Funded. (June 2013-August 2013)
5. Xiaohua, Peng (PI), Chay Teng Yeo (Undergraduate Student) Sponsored Research, *"Modification of Pyrimidine Nucleosides via "Click" Chemistry*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $1,500.00, Funded. (June 2013-August 2013).
6. Xiaohua, Peng (PI), Hyeyoung Eom (Undergraduate Student) Sponsored Research, *"Coumarin derivatives: Synthesis, Photochemistry, and future application in DNA*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $2,500.00, Funded. (January 2014-May 2014)
7. Xiaohua, Peng (PI), Quibria Arianna Guthrie (Undergraduate Student) Sponsored Research, *"The effect of leaving group on quinone methide formation induced by arylboronates*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $3,300.00, Funded. (June 2014-August 2014) McNair Scholar
8. Xiaohua, Peng (PI), Bruce Lee (Undergraduate Student) Sponsored Research, *"Synthesis of H2O2-activated nitrogen mustard prodrugs*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $4,980.00, Funded. (June 2014-August 2014)
9. Xiaohua, Peng (PI), Williams, Nicholas John (Undergraduate Student) Sponsored Research, *"Toxicity study of quinone methide prodrugs*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $1,800.00, Funded. (January 2017-May 2017)
10. Xiaohua, Peng (PI), Grahl, Justin John (Undergraduate Student) Sponsored Research, *"In Vivo Testing of H2O2-Activated Arylboronate Anticancer Drugs*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, $1,800.00, Funded. (January 2017-May 2017).