**Yan Liu**

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<https://biodesign.asu.edu/yan-liu>

<https://scholar.google.com.au/citations?user=urBf8SYAAAAJ&hl=en>

**EDUCATION**

|  |  |  |  |
| --- | --- | --- | --- |
| 2001-2004  | Post-Doc.  | Duke University Durham, NC |  Advisor: John D. Simon |
| 2000-2001  | Post-Doc.  | Rockefeller University New York, NY  | Advisor: David Mauzerall |
| 1995-2000  | Ph.D.  | Columbia University New York, NY  | Advisor: Kenneth B. Eisenthal Dissertation: “Studies of Colloidal Particles by Second Harmonic Generation” |
| 1989-1993  | B.S. | Shandong UniversityJinan, P. R. China  | Advisor: Ganzuo Li |

**EMPLOYMENT**

|  |  |  |
| --- | --- | --- |
| 08/2019-present  | **Professor** | School of Molecular Sciences and Biodesign Institute, Arizona State University, Tempe, AZ. |
| 08/2013-present | **Associate Professor** **(with tenure)** | School of Molecular Sciences and Biodesign Institute, Arizona State University, Tempe, AZ.  |
| 08/2007-04/2013 | **Assistant Professor** | Department of Chemistry and Biochemistry and Biodesign Institute, Arizona State University, Tempe, AZ. |
| 08/2004-08/2007 | **Assistant Research Professor**  | Biodesign Institute, Arizona State University, Tempe, AZ. |
| 09/2001-08/2004 | **Research Associate** | Department of Chemistry, Duke University, Durham, NC. |
| 09/2000-08/2001  | **Postdoctoral Associate** | Rockefeller University, New York, NY.  |
| 08/1995-08/2000  | **Graduate Fellow** | Department of Chemistry, Columbia University, New York, NY. |

**AWARDS AND HONORS**

**Tulip Award**, together with Prof. Hao Yan at DNA 19, for contributions in DNA nanotechnology, awarded by the ISNSCE (International Society for Nanoscale Science, Computation and Engineering), at International Conference on DNA Computing and Molecular Programming, September 2013.

**Travel Award** for Young Investigator, American Society for Photobiology, July 2002.

**Graduate Faculty Fellowship**, Columbia University, 1995-2000

**Jack Miller Award**, in recognition of excellence in teaching, Columbia University, 1998

**Excellent Graduate Award**, Shandong University, 1993.

**Guang-Hua Award**, Shandong University, 1992

**TEACHING**

1. **Lecturing courses**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Year* | *Term* | *Course* | *Title* | *Credits* | *Enrollment* |
| 2020 | Spring | BCH361  | Principles of Biochemistry | 3 | 82 |
| 2019 | Fall |  | Medical leave  |  |  |
| 2019  | Spring | BCH463 | Biophysical Chemistry | 3 | 87 |
| 2018 | Fall | BCH361 | Principles of Biochemistry | 3 | 117 |
| 2018 | Spring | BCH467 | Analytical Biochemistry Lab | 3 | 139 |
| 2017 | Fall | BCH361 | Principles of Biochemistry | 3 | 110 |
| 2017 | Spring | BCH463 | Biophysical ChemistryCo-teach with Prof. Wade Van Horn | 3 | 87 |
| 2017 | Spring | BCH501 | Current Topics in Biochemistry Graduate Seminar | 1 | 23 |
| 2016 | Fall | BCH361 | Principles of Biochemistry | 3 | 175 |
| 2016 | Spring | BCH463 | Biophysical ChemistryCo-teach with Prof. James Allen | 3 | 110 |
| 2015 | Fall | BCH361 | Principles of Biochemistry | 3 | 170 |
|  |  |  |  |  |  |
| 2015 | Fall | BCH501 | Current Topics in Biochemistry Graduate Seminar | 1 | 39 |
| 2015 | Spring | BCH361 | Principles of Biochemistry | 3 | 155 |
| 2014 | Fall |  | Sabbatical leave |  |  |
| 2014 | Spring | BCH463 | Biophysical ChemistryCo-teach with Prof. Rebekka Wachter | 3 | 66 |
| 2013 | Fall | BCH361 | Principles of Biochemistry (two sessions)Co-teach with Dr. Scott Lefler | 3 | 150+90 |
| 2013 | Spring | BCH361 | Principles of BiochemistryCo-teach with Prof. Xu Wang | 3 | 320 |
| 2013  | Spring | CHM460 | Biological Chemistry (for Chemistry majors) | 3 | 9 |
| 2012 | Fall | BCH463 | Biophysical ChemistryCo-teach with Prof. Rebekka Wachter | 3 | 81 |
| 2012 | Spring | BCH463 | Biophysical Chemistry Co-teach with Prof. James Allen | 3 | 141 |
| 2011 | Fall |  | Exempt from teaching  |  |  |
| 2011 | Spring | BCH463 | Biophysical Chemistry Co-teach with Prof. Tom Moore | 3 | 99 |
| 2010 | Fall | BCH463 | Biophysical Chemistry Co-teach with Prof. Tom Moore | 3 | 81 |
| 2010 | Fall | CHM460 | CHM 460 Biological Chemistry (for non-Biochemistry majors). | 3 | 21 |
| 2010 | Spring | BCH463 | Biophysical Chemistry Co-teach with Prof. James Allen | 3 | 72 |
| 2009 | Fall | BCH463 | Biophysical Chemistry Co-teach with Prof. James Allen | 3 | 64 |
| 2009 | Fall | CHM460 | Biological Chemistry for non-Biochemistry majors | 3 | 34 |
| 2009 | Spring | BCH463 | Biophysical Chemistry Co-teach with Prof. Tom Moore | 3 | 60 |
| 2008 | Fall | CHM460 | Biological Chemistry (for non-Biochemistry majors) | 3 | 24 |
| 2008 | Fall | BCH501 | Current Topics in Biochemistry Graduate Seminar | 1 | 18 |
| 2008 | Spring | CHM460 | Biological Chemistry (for non-Biochemistry majors) | 3 | 25 |
| 2007 | Fall |  | Exempt from teaching  |  |  |

**B. Advisor/Co-advisor for Graduate Students**

***Current Graduate Students (2)***

Swarup Dey Fall 2015-

Xu Zhou Fall 2016-

***PhD Alumni (Graduated 22)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Name* | *Years* | *Post-doc position* | *Current position* | *Awards/Honors* |
| Sherri Rinker | 2004-2009 | **Indiana University**School of Medicine | Senior Lead Scientist at Covance, Indiana | Excellent RA award 2009 |
| Kyle Lund | 2004-2009 | **US Army** | **1st AML**, **Chief Chemist** Threat Team, US Army | Excellent RA award 2009 |
| Rahul Chhabra | 2004-2009 | **Univ. of Alberta** | **Research Scientist**, NanoSpeed Diagnostics, Canada**Physician Famly Doctor**, Canada |  |
| Chenxiang Lin | 2005-2009 | **Harvard University** Wyss Institute. Shih group | **Associate Professor**, Department of Cell Biology, **Yale** **University** since 2013 | Excellent RA award 2008**NIH Director's New Innovator Award 2014** |
| Jaswinder Sharma | 2005-2009 | **Los Alamos National Lab**, New Mexico | **Principle Investigator**, **Oak Ridge National Lab** since 2013 | Excellent RA award 2008 |
| Yonggang Ke | 2005-2009 | **Harvard University**. Wyss Institute. Shih/Yin group | **Assistant Professor**. **Emory University**, 2014- | Excellent RA award 2008 |
| Jeanette Nangreave | 2007-2012 | Biodesign Institute, **ASU,** Yan/Liu Lab | **Lecturer** in **ASU** Lake Havasu campus | Excellent RA award 2011 |
| Zhe Li | 2007-2012 | **Yale University**, Issacs group. | **Professor** at **Nanjing University** (top 5 university in China)  | Winner of the Chinese 1000 Young Person Plan 2015 |
| Xiaowei Liu | 2008-2012 | Biodesign Institute **ASU**, Chang/Yan group | **Research Scientist**, Caris Life Sciences, Phoenix |  |
| Suchetan Pal | 2008-2012 | **Columbia University and Brookhaven National Lab** | **Post-doc** in **Sloan-Kettering Cancer Institute**, New York **Assistant professor** in IIT Bhilai, India | Winner of the Eyring award to graduate students 2011.  |
| Dongran Han | 2009-2012 | **Harvard University**Wyss Institute, Peng Yin group | **Professor** at Beijing University of Chinese Medicine  | Excellent RA award 2012 |
| Zhao Zhao | 2008-2013 | **Harvard University** Wyss Institute, Shih group | Research Scientist at ReadCoor, Inc. Boston | Excellent RA award 2013 |
| Minghui Liu | 2008-2013 | Biodesign **ASU**, Joint between Yan lab and Stephanopoulos group | **Research lab manager** in 2015 | Excellent RA award 2013 |
| Xixi Wei | 2008-2014 | Biodesign **ASU** | Research Scientist II at Caris Life Sciences Phoenix | Excellent TA award 2013 |
| Wei Li | 2009-2014 | **California Institute of Technology**, Lulu Qian group | **Senior Scientist** at Agilent, Houston, Texas Area  | Best Poster award at DNA19, 2013 |
| Anirban Samanta | 2009-2014 | **US Naval Research Lab**, Washington DC | **Assistant Professor,** University of CalcutaIndia | Excellent RA award 2014 |
| Palash Dutta | 2009-2014 | **Georgia Tech and Emory Univ.**, Ke group, **Boston Univ.** Chen group (2017-).  | On job market loking for an AP position is US.  | Excellent RA award 2014 |
| Fei Zhang | 2010-2015 | Biodesign Institute, **ASU**, Yan/Liu Lab | **Assistant Professor** Rutgers University, New Jersey | Excellent RA award 2015 |
| Shuoxing Jiang | 2011-2016 | Biodesign Institute, **ASU**, Yan/Liu Lab |  | Eyring award 2016 |
| Yuhe Yang  | 2011-2016 | Biodesign Institute, **ASU**, Yan/Liu Lab,  | **Post-doc in Scripps Institute** (2017-) |  |
| Angela Edwards | 2012-2017 | **Lecturer** in **ASU** Tempe campus |  | Twice excellent TA award |
| Saswata Banerjee | 2012-2018 | **Columbia University**Medical Center |  |  |
| Yu Zhou | 2013- 2019  | Biodesign Institute, **ASU**, Green Lab | 2020, Univ. of Florida |   |
| Fan Hong  | 2014-2019  | **Harvard University**Wyss Institute, Peng Yin group |  | Fall 2014-, Excellent graduate RA award, 2017; 2nd place best poster award at DNATEC17, Dresten Germany, 2017.  |

***Rotation Graduate students***

Justin Flory Summer 2009 (Fromme Group)

Abhishek Debnath Fall 2013 (Green group)

Anli Tang Fall 2014 (Green group)

1. **Supervisor for Post-docs**

***Current Post-docs (4)***

Dr. Minghui Liu 06/2013-present (PhD, ASU)

Dr. Xiaodong Qi 12/2013-present (PhD, ASU)

Dr. Nour Eddine Fahmi 01/2015-present

Dr. Shuoxing Jiang 06/2016-present (PhD, ASU)

***Post-docs worked with in the past (14) and their current positions***

Dr. Junping Zhang Spring 2005-Summer 2007 (PhD from Tokyo University, Japan) Currently **Senior Scientist** in Platform Specialty on Nanomaterials, New Jersey, USA.

Dr. Qiangbin Wang Spring 2006-Summer 2008 (PhD from Shanghai Jiaotong University) Currently **Professor and Director** in **Suzhou Institute of Nano-Tech and Nano-Bionics**, Chinese Academy of Sciences, Suzhou, P.R. China.

Dr. Baoquan Ding Fall 2009-Fall 2010 (PhD from New York University) Currently **Professor in National Center for Nanosciences and Technology**, Chinese Academy of Science, Beijing, P. R. China.

Dr. Reji Varghese Fall 2009-Fall 2010 (PhD from NIIST, India). Currently **Assistant Professor** in **Indian Institute of Science Education and Research**, India.

# Dr. Andre Pinheiro *Spring 2011-12/2011.* PhD fromUniversidade Nova de Lisboa, Spain. Currently Director, Global Market Access Lead at Shire, Switherland.

## Dr. Zhengtao Deng Spring 2009-09/2012 (PhD from Chinese Academy of Sciences). Currently Professor in Nanjing University, Jiangsu, China. Winner of the Chinese 1000 Young Talent Plan 2014.

Dr. Yang Yang Fall 2010-Fall 2012 (PhD from Tsinghua University, currently Post-doc at Yale University, Lin group). **Winner of the Chinese 1000 Young Talent Plan** 2017, **offered a Professor position in Shanghai Jiaotong University**, China.

Dr. Yang Xu Fall 2011-Fall 2012 (PhD from Cancer Institute and Hospital, Chinese Academy of Medical Science, Beijing.) Currently **Assistant Research Scientist** in Stephanopoulos group at Biodesign Institute, ASU.

Dr. Jinglin Fu Fall 2010-Summer 2013 (PhD from ASU, Woodbury group). Currently tenure track **Assistant Professor in Rutgers University**, New Jersey.

Dr. Ryan Nangreave Spring 2013-Fall 2013 (PhD from ASU, Hecht group) Currently **Lecturer in ASU, Lake Havasu** campus.

Dr. Sarah Henry 09/2013-04/2015 (PhD from Univ. of Glasgow) Currently **Research Associate** at **Univ. Glasgow**, UK.

Dr. Alessio Andreoni 09/2012-03/2015 (PhD from Leiden University, Netherland) Currently **Postdoc at NIH (**[National Heart, Lung, and Blood Institute](https://www.researchgate.net/institution/National_Heart_Lung_and_Blood_Institute)**)**.

Dr. Yen-Ting Lai 08/2014-08/2015 (PhD from UCLA, UW) Currently **Post-doc at NIH** (National Institute of Allergy and Infectious Diseases)..

Dr. Zhilei Ge 09/2015-10/2017 (PhD, Shanghai Biophysical Research Institute) Currently **Associate Professor in Shanghai Institute of Applied Physics**, Chinese Academy of Sciences.

Dr. Fei Zhang 05/2015-10/2017 (PhD, ASU) Currently **Research Assistant Professor** at Biodesign Institute, ASU. Winner of 2018 **Robert Dirks Molecular Programming Prize.**

Dr. Xiang Lan 08/2016-05/2018 (PhD, Suzhou Institute of Nano-Tech and Nano-Bionics) Post-doc in Rice University with Prof. Stephan Link. Currently **Professor in Donghua University**, Center of Advanced Low Dimension Materials. Shanghai.

Dr. Zhi Zhao 01/2017-07/2019 (PhD, Texas A&M).

1. **Advisor/co-advisor for Undergraduate research students**

Ashley Hunt Spring 2014-Spring 2015 (BS honor thesis advisor, current PhD student at Biodesign Institute)

Eric Smith Summer 2014-Spring 2015 (BS honor thesis advisor, current Pharmacy student at University of Arizona)

## Shaun Wooten Summer 2014-Spring 2017 (Research and Development Engineering Manager at Aesthetics BioMedical Inc.)

Huiyu Hu Summer 2015-Spring 2017 (Master of Bioinformatics at UCLA)

**E. Host for** **summer high school students and teachers**

Nickie Seto Summer 2009 (Student from Dobson High School, Mesa, AZ)

Nema Udom Summer 2009 (Teacher from Miami High School, Miami, AZ).
Jameel Hendricks Summer 2009 (Teacher)

 Wiki space constructed: http://mstf2009.wikispaces.com/Bio-Nanotech.+Design

James Wang Summer 2008 and 2009, 2010 (Student from Hamilton High School, Duke)

Lindsey Edgerton Summer 2008 (student from McClintock High School)

Stephanie King Summer 2008 (teacher from McClintock High School)

Fiona Zhang Summer 2013 (student from Hamilton High School, Chandler, MIT)

Andrew Seo Summer 2013 (student from Hamilton High School, Chandler)

Linda Che Summer 2013 (student from Desert Vista High School, Tempe, UCLA)

Connie Zhu Summer 2014 (student from Hamilton High School, Chandler, Princeton)

Swetha Alturi Summer 2014

Aditya Konduri Spring 2015 (student from Basis Chandler, ASU Barrett)

Aditya Ponnapalli Spring 2015 (student from Basis Chandler, ASU Barrett)

Fathima Haseefa Spring 2015 (student from Basis Chandler, skip year)

**F.** **Host for visiting international exchange graduate student**

Elizabeth Sheyer Spring-Fall 2015 (from Technische Universität Dresden, Germany)

Guoliang Ke Fall 2013-Fall 2015 (from Xiamen University, China) Currently professor at Hunan University, China.

Yuanchen Dong Spring 2014 (From Tsinghua University, China)

Zhilei Ge Summer 2011-Spring 2013 (from Shanghai Institute of Applied Physics, Chinese Academy of Sciences). Currently Professor there.

Christian Rosen Fall 2011 (from Aarhus University, Denmark)

Brian Wei Summer 2008-Spring 2009 (from [The Hong Kong University of Science and Technology](http://www.ust.hk/)) Currently Professor at Tsinghua University, China.

Kasper Jahn Summer 2008 (From Aarhus University, Denmark)

Casper Anderson Spring 2008 (from Aarhus University, Denmark)

**G.** **Host for international visiting scholars**

Dr. Lin Lin 01/2012-06/2012 (Doctor, from Cancer Institute and Hospital, Chinese Academy of Medical Science, Beijing)

Prof. Yuhua Zhang 07/2011-06/2012 (Associate professor from Medical School at Shandong University, Jinan)

Prof. Lei Wang 05/2010-05/2011 (Professor from Medical School at Shandong University, Jinan)

Prof. Jingkun Xu 11/2010-04/2011 (Professor and vice president from Jiangxi Science and Technology Normal University, Nanchang)

Prof. Cheng Zhang 01/2015-12/2015 (Associate Professor from Peking University, Beijing)

Prof. Jing Yang 01/2015-12/2015 (Associate Professor from North China Electric Power University, Beijing)

**H.** **Graduate Advisory Committee Member or Oral Examination Committee Member for Doctoral or Master Students**

**Student name Degree Advisor Time and Role**

Duo Li PhD Jerry Lin, Chemical Engineering 2007

Yinan Liu MS Giovanna Ghirlanda 2008

Ugur Demirok PhD Joseph Wang & Neal Woodbury 2007- 2010

Berea Williams PhD John Chaput 2007-2010 (PhD advisory committee)

Christopher Madden PhD Tom Moore Fall 2008 (chair)

James Jursich MS Giovanna Ghirlanda Spring 2009 (chair)

Manas Chakraborty PhD Marcia Levitus Spring 2009

Daniel Mahlman PhD Daniel Buttry Spring 2009 (chair)

Rui Liu MS John Chaput Fall 2009-Spring 2010

Bing Jiang PhD John Chaput 2009-2013 (PhD advisory committee)

Peter Josh Laughlin MS Giovanna Ghirlanda Fall 2009-Spring 2010

Brian Page BS John Chaput Spring 2010

JayHow Yang PhD Petra Fromme Spring 2010

Jurgen Weber MS James Allen Spring 2010

Olaf Shultz PhD Robert Ros, Physics 2010-2012(PhD advisory committee)

Sen Peng PhD Stuart Lindsay Spring 2010

Wei Wang PhD Neal Woodbury 2010-2014 (PhD advisory committee)

Lin Gan PhD Alexander Ros 2011-2015 (PhD advisory committee)

Xiangyan Shi PhD Jeff Yarger 2011-2014 (PhD advisory committee)

Dian Xu PhD Jeff Yarger 2012-2015 (PhD advisory committee)

Suman Sen PhD Stuart Lindsay Spring 2012

Shikha Manchanda MS Alexander Ros Spring 2012

Elana Stennett PhD Marcia Levitus 2012-2015 (PhD advisory committee)

[Jennifer Binder](https://exchange.asu.edu/owa/?ae=Item&t=IPM.Note&a=New&to=Jennifer.Binder%40asu.edu&nm=Jennifer+Binder) PhD Marcia Levitus 2012-2015 (PhD advisory committee)

Ryan Yanashima PhD Mark Hayes Spring 2012 (chair)

Warner Weber PhD Jeff Yarger Summer 2012

Pankti Shah PhD John Chaput Summer 2012 (Chair)

Iolanda Klein PhD Austin Angell Fall 2012 (chair)

Monika Ciuba PhD Marcia Levitus 2013-2016 (PhD advisory committee)

Anasuya Pal PhD Josh Labear Summer 2013

Fanyi Zhu PhD Mark Hayes Summer 2013

Bryan Donaphon PhD Marcia Levitus Summer 2014

Renjie Liao PhD Jia Guo 2014-2019 (PhD advisory committee)

Lu Xiao PhD Jia Guo 2014-2019 (PhD advisory committee)

Jen-Yu Liao PhD John Chaput Fall 2014 (chair)

Duo Ma PhD Alex Green 2015-2019 (PhD advisory committee)

Anirban Purohit PhD Marcia Levitus Summer 2015

Ahmed Yousaf PhD Alex Green Summer 2015

Erandi Kapuruge PhD Chad Borges Summer 2015 (Chair)

Abhishek Debnath PhD Alex Green 2015-2019 (PhD advisory committee)

Chenwen Lin PhD Nongjian Tao Summer 2015

Nikita Kumari PhD Marcia Levitus Summer 2016

Akanksha Singh PhD Neal Woodbury Fall 2016

Raghu Narayanan PhD Nicholas Stephanopoulos Fall 2016

 PhD Giovanna Ghirlanda Fall 2017

Yuexin Li MS Alex Green Fall 2018

Sohini Mukeherjee PhD Stuart Lindsey Fall 2018

Tyler Rockwood MS Nick Stephanopoulos Fall 2019

Pirouz Ebadi  MS Rebbecca Wachter Fall 2019

**I.Undergraduate honor contracts:**

**In CHM460, BCH463, BCH361, I have hosted a number of honor contracts with students taking the course each semester.**

**4 in Spring 2015 BCH361**

**4 in Fall 2015 BCH361**

**1 in Spring 2016 BCH463**

**3 in Fall 2016 BCH361**

**4 in Spring 2017 BCH463**

**5 in Fall 2017 BCH361**

**2 in Spring 2018 BCH467**

**2 in Spring 2019 BCH463**

**SERVICES**

1. **University and Departmental Services**

2007-2012, 5 years, Graduate Admission Committee, Department of Chemistry and Biochemistry

2010-2011, New Faculty Search Committee, Department of Chemistry and Biochemistry, Inorganic division.

2011-2013, Industrial Liaison Committee, Biodesign Institute

2012-2013, Committee on Faculty and Academic Professionals Awards, Department of Chemistry and Biochemistry

2013-2014, New Faculty Search Committee, Department of Chemistry and Biochemistry and Biodesign Institute. Biochemistry division.

2014-2015, Committee on Graduate Programs and Awards

2014-2015, Ad Hoc Committee on Physical and Biophysical Chemistry Offerings in the Biochemistry Track

2014-2015, Two New Faculty Search Committee: Department of Chemistry and Biochemistry and Biodesign Institute. Biomimetics and Biomimetics/Organic.

2015-2016, Committee on Graduate Programs and Awards

2015-2016, Committee on School of Molecular Sciences Director Search

2016-2018, Committee on Graduate Programs and Awards & Committee on Safety

2017-2018, SMS New Faculty Search Committee

2018-2019, SMS New Faculty Search Committee (for two positions)

2018-2020, Graduate Student Admission Committee

1. **Grant Review Panel Service:**

2018, May, reviewer for the 2018 Graduate Woman in Science Fellowship.

2018, February. Panelist: National Science Foundation SemiSynBio (Semiconductor synthetic biology Panel)

2016, February. Ad Hoc Reviewer: DOE (Early career award proposals)

2015, April. Panelist: National Science Foundation (MSN, Nanoparticle Synthesis and Assembly),

2014, May. Ad Hoc Reviewer: US-Israel Binational Science Foundation Research Grant.

2013, January. Army Research Office (ARO) grant reviewer.

2013, February. Panelist: National Science Foundation (BMAT, MMA).

2011, October. Army Research Office (ARO) grant reviewer.

2009, October. Panelist: National Science Foundation (Biomaterial 2010 Career).

2008, March. Panelist: National Institute of Health (PAR-07-271, Nanoscience and Nanotechnology in Biology and Medicine).

2008, March. Ad Hoc Reviewer: North Carolina Biotechnology Center.

1. **Manuscript Review Service:**

Review manuscripts for:

*Nature,* *Nature Nanotechnology, Nature Communication, JACS, Angew. Chem. Int. Ed., Chem. Comm., J. Phys. Chem., Adv. Materials, Adv. Functional Materials, Nano Letters. ACS Nano, ACS Photonics, Nanotechnology, Nanoscale, Biophysical Journal, Small, Langmuir,* *J. Materials,* *Pigment Cell Research,* *Photochemistry and Photobiology.*

About 5 manuscripts reviewed each year.

1. **Volunteer as grand award judge for Intel Science and Engineering Fair**

**(May 2013, 2016, 2019 Phoenix)**

1. **Conference Program Committee:**

**DNA22 (**22nd International Conference on DNA Computing and Molecular Programming)Munich, Germany. September 4-8, 2016

**DNA23, Austin, Texas.** September 24-28, 2017

**DNA24, Jinan, China**, October 2018.

**DNA25, Seattle, USA.** August 2019. Co-Chair of the Conference Program Committee.

**DNA26, Oxford, UK.** September 2020. Member of Conference Program Committee.

1. **Professional Affiliations:**

 Member of American Chemical Society.

 Member of ISNSCE (International Society for Nanoscale Science, Computation and Engineering)

 Member of Material Research Society

**RESEARCH PUBLICATIONS**

**Invited Views, Reviews and Perspectives (non-peer reviewed)**

4. **Y. Liu\***, Nanomaterials: DNA Brings Quantum Dots to Order, ***Nature Nanotechnology*** 6, 463-464, **2011.** (**Invited News & Views**)

## 3. Y. Liu, H. Yan\*, Designer Curvature, Science, 685-686, 2009 (Invited Perspective)

## 2. Y. Liu, H. Yan\*, Self-assembly: Coordinating Corners, Nature Chemistry, 1, 339 - 340 2009. (Invited News and Reviews)

1. J. D. Simon\*, **Y. Liu**, J. B. Nofsinger, Assembly and Aerobic Photoreactivity of Melanin. ***The Spectrum***, Spring, **2002**. (**Invited review**)

**Peer Reviewed Journal Articles**

(In chronicle order, \* marks the **corresponding author**, **\_\_\_\_\_** marks the **student authors, ✓ marks the postdoc author.**)

On 1/27/20, **total citation 17628**, **H-index= 76**, **i10-index=141**. Since 2015, citations 9217, H-index=51, i10-index=133. <https://scholar.google.com.au/citations?user=urBf8SYAAAAJ&hl=en>

**A. At Arizona State University (*2005-present*)**

**2020 Submitted under review or revision (3)**

\*166. S. Jiang***✓***, F. Hong, N. Walters, H. Yan, Y. Liu\*. Triggering DNA Tile Self-Assembly by Controlled Nucleation. **Revision** in preparation, to be submitted to ***ACS Nano***. 2020.

165. G. Yao, F. Zhang, F. Wang, T. Peng, H. Liu, E. Poppleton, P. Sulc, S. Jiang, L. Liu, X. Jing, X. Liu, L. Wang, Y. Liu, C. Fan, H. Yan\*. Meta-DNA Structures, **Revision** submitted to ***Nature Chemistry. NCHEM-19081608***

164. F. Hong, D. Ma, K. Wu, L. Mina, R. Luiten, Y. Liu, H. Yan\*, A. Green\*. Precise and Programmable Detection of Mutations Using Ultraspecific Riboregulators. **Accepted** by ***Cell***.

**2019 (*5 published, 2 as corresponding author*)**

\*163. X. Lan; Y. Zhou; L. McCarthy; A. Govorov; Y. Liu\*; S. Link.\* DNA Enabled Chiral Gold Nanoparticle - Chromophore Hybrid Structure with Resonant Plasmon – Exciton Coupling Gives Unusual and Strong Circular Dichroism, ***J. Am. Chem. Soc.*,** 141, 49, 19336-1934. 2019. <https://doi.org/10.1021/jacs.9b08797>

\*162. Z. Zhao, Chao Wang, H. Yan\*, Y. Liu\*. Soft Robotics Programmed with Double Crosslinking DNA Hydrogels. ***Advanced Functional Materials,*** 2019. <https://doi.org/10.1002/adfm.201905911>

161. Nicking-Assisted Reactant Recycle to Implement Entropy-Driven DNA Circuit

C Zhang\*, Z Wang, Y Liu, J. Yang, X. Zhang, Y. Li, L. Pan, Y. Ke, H. Yan\*

***J. Am. Chem. Soc.*,** 2019. <https://doi.org/10.1021/jacs.9b07521>

# 160. X. Zhou, S. Mandal, S. Jiang, S. Lin, J. Yang, Y. Liu, D. Whitten, N.W. Woodbury\*, H. Yan\*. Efficient Long-Range, Directional Energy Transfer through DNA-Templated Dye Aggregates. *J. Am. Chem. Soc.*, 2019, 141, 21, 8473-8481. <https://pubs.acs.org/doi/10.1021/jacs.9b01548>

159. Y. Zhou, X. Qi, Y. Liu, F. Zhang\*, H. Yan\* [DNA Nanoscaffold‐Assisted Selection of Femtomolar Bivalent Aptamers for Human α‐Thrombin with Potent Anticoagulant Activity](https://onlinelibrary.wiley.com/doi/abs/10.1002/cbic.201900265)

***ChemBioChem.*** 2019. <https://doi.org/10.1002/cbic.201900265>

**2018 (*10 published, 2 as corresponding author*)**

\*158. X. Lan\*, T. Liu, Z. Wang, A. Govorov\*, H. Yan, Y. Liu.\* DNA-Guided Plasmonic Helix with Switchable Chirality. ***J. Am. Chem. Soc.*,** 140, 37, 11763-11770. **jacs.8b06526. ACS Editor’s choice spotlights.** 2018.

157. X. Qi***✓***, F. Zhang\****✓***, Z. Su, S. Jiang***✓***, D. Han, B. Ding, Y. Liu, W. Chiu, P. Yin, H. Yan\*. Programming Molecular Topologies from Single-stranded Nucleic Acids. ***Nature Communication***. 4579, 2018. DOI: [10.1038/s41467-018-07039-7](https://doi.org/10.1038/s41467-018-07039-7)

156. D. Jiang, Z. Ge***✓***, H. Im, C.G. England, D. Ni, J. Hou, L. Zhang, C. J. Kutyreff, Y. Yan, Y. Liu, S.Y. Cho, J.W. Engle, J. Shi, P. Huang\*, C. Fan\*, H. Yan\*, and W. Cai\*. DNA Origami Nanostructures can Exhibit Preferential Renal Uptake and Alleviate Acute Kidney Injury. ***Nature Biomedical Engineering.*** 2, 865-877,2018.DOI: [10.1038/s41551-018-0317-8](https://doi.org/10.1038/s41551-018-0317-8)

\*155. F. Hong, S. Jiang***✓***, X. Lan***✓***, R. N. Pradeep, Petr Sulc, F. Zhang\*, Y. Liu\*, H. Yan\*. Layered-Crossover Tiles with Precisely Tunable Angles for 2D and 3D DNA Crystal Engineering. ***J. Am. Chem. Soc***., 140, 44, 14670-14676, 2018. DOI: [10.1021/jacs.8b07180](https://doi.org/10.1021/jacs.8b07180)

154. X. Liu, F. Zhang***✓***, X. Jing, M. Pan, P. Liu, W. Li, B. Zhu, J. Li, H. Chen, L. Wang, J. Lin, Y. Liu, D. Zhao, C. Fan\*, H. Yan\*. Complex silica composite nanomaterials templated with DNA origami. ***Nature***, 559, 593-598, 2018. DOI: 10.1038/s41586-018-0332-7

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28. “Designer DNA Architectures for Programmable Self-assembly” ASME's International Mechanical Engineering Congress and Exposition (IMECE). Phoenix, AZ. November. **2016.**

27. “DNA Nanotechnology: from Structural Design to Functionality” DNA 22, Munich, Germany. September, **2016**.

26. “DNA Directed Assembly of Proteins and Enzymes” Nanobiology Institute, Yale University, June, **2016**.

25. “DNA Origami and Applications” Ten Years of DNA Origami Symposium, California Institute of Technology, March, **2016**.

24. “Thermodynamics and Kinetics of DNA Based Self-assembly” Department of Physics, ASU, Tempe, December, **2015**.

23. “Designer DNA Architectures for Programmable Self-Assembly” National Center for NanoScience and technology, Beijing, China. September, **2015**.

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7. “DNA Directed Self-Assembly for Nanophotonics” **Y. Liu**, ONR grant kickoff seminars, Columbia University, New York, NY. December, **2009.**

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46. “Site-specific display of bacteriophage MS2 capsids on DNA origami scaffolds.” M. Liu, N. Stephanopoulos, H. Yan, Y. Liu and M. Francis. FNANO10,Snowbird, Utah,April, **2010.**

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50. “DNA directed artificial light harvesting antenna”, P. K. Dutta, R. Varghese, J. Nangreave, S. Lin, H. Yan, Y. Liu, FNANO11, Snowbird, Utah, April, **2011**.

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52. “Discrete Gold nanorod architectures scaffolded by DNA origami for nanophotonic applications”, S. Pal, Z. Deng, H. Yan, Y. Liu, FNANO11, Snowbird, Utah, April, **2011**.

53. “Hybridization Kinetics of Higher-Order DNA Assemblies”, A. V. Pinheiro, J. Nangreave, H. Yan, Y. Liu. DNA 17, Pasadena, CA, July, **2011.**

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55. “DNA Template Organization of Quantum Dots with Emission Spectrum from UV-vis to Near Infrared for Nanophotonic Applications”, A. Samanta, Z. Deng, H. Yan and Y. Liu, FNANO12, Snowbird, Utah, April, **2012.**

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58. “Hybridization Kinetics of Multivalent DNA Tiles” Shuoxing Jiang, Dongran Han, Hao Yan and Yan Liu, FNANO13, Snowbird, Utah, April, 2013.

59. “DNA Origami Constructed From Parallel Helices”. D. Han, Y. Liu, H. Yan. FNANO13, Snowbird, Utah, April, 2013.

60. “Nucleic Acid Driven Polypeptide Assembly” J. Flory, S. Shinde, Y. Liu, H. Yan, G. Ghirlanda, P. Fromme, FNANO13, Snowbird, Utah, April, 2013.

61. “Self-assembly of Archimedean DNA Structures” F. Zhang, H. Yan, Y. Liu, FNANO13, Snowbird, Utah, April, 2013.

62. “Complex Archimedean Tiling Self-assembled from DNA Nanostructures ” Fei Zhang, Yan Liu and Hao Yan, DNA 19, Tempe, AZ, 2013 (oral presentation)

63. “Hybridization Kinetics of Multivalent DNA Tiles” Shuoxing Jiang, Dongran Han, Hao Yan and Yan Liu, DNA 19, Tempe, AZ, 2013.

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65. “Mapping the Thermal Behavior of DNA Origami Nanostructures”, Xixi Wei, Yan Liu and Hao Yan, DNA 19, Tempe, AZ, 2013.

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69. “Complex wireframe DNA origami nanostructures with multi-arm junction vertices” F. Zhang, S. Jiang, Y. Liu, H. Yan. Gordon Research Conferences (GRC), Ventura, California, Feb, 2015.

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71. “Thermodynamics and Kinetics of DNA Tile Binding During the Nucleation Process of 2D DNA Lattice Formation”. Fan Hong, Shuoxing Jiang, Hao Yan and Yan Liu. DNA 21, Cambridge, MA. August, 2015.

72. “Self-assembly of RNA and DNA nanoarrays with Paranemic Crossovers”. Fei Zhang, Xiaodong Qi, Yan Liu, Hao Yan. DNA 21, Cambridge, MA. August, 2015.

73. “DNA Nanotube Treadmilling Driven by Holliday Junction Isomerization”. Shuoxing Jiang, Yan Liu, Hao Yan. DNA 21, Cambridge, MA. August, 2015.

74. “Scaling Up Single-stranded RNA Nanostructures”. Xiaodong Qi, Fei Zhang, Congzhe Su, Sean Williams, Shuoxing Jiang, Teresa Wu, Yan Liu, Hao Yan. FNANO16, Snowbird, Utah, April, 2016.

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76. “Thermodynamics and Kinetics of Single Tile Attachment in DNA Tile-Based Self-Assembly”. Shuoxing Jiang, Fan Hong, Hao Yan, Yan Liu. FNANO16, Snowbird, Utah, April, 2016.

77. “Swinging Arm Channeled Artificial 2D Protein Array Organized by DNA Nanoscaffolds”. Renee Yuhe Yang, Yan Liu, Hao Yan. FNANO16, Snowbird, Utah, April, 2016.

78. “Layered Crossover Motif for DNA Nanostructure Design” Fan Hong, Shuoxing Jiang, Tong Wang, Yan Liu, Hao Yan. DNATEC17 workshop at the MPIPKS, Dresten, Germany. May 2017.

79. “Rapid photo-actuation of DNA nanostructures using caged nucleotides” Minghui Liu, Nicolas Stephanopoulos, Yan Liu, Hao Yan. DNATEC17 workshop at the MPIPKS, Dresten, Germany. May 2017.

80. “Synthetic near-threshold translational repressors” Yu Zhou, Yan Liu, Alex Green, Hao Yan, DNATEC17 workshop at the MPIPKS, Dresten, Germany. May 2017.

81. “Thermodynamics and kinetics of single tile attachment in DNA tile-based self-assembly” Shuoxing Jiang, Fan Hong, Yan Liu, Hao Yan. DNATEC17 workshop at the MPIPKS, Dresten, Germany. May 2017.

82. “Programming Highly Knotted Molecular Topologies Using Single-stranded Nucleic Acids” Fei Zhang (Oral), Xiaodong Qi, Zhaoming Su, Shuoxing Jiang, Wah Chiu, Yan Liu and Hao Yan, DNA 23, Austin, Texas, 2017.

83. “Complex 2D Tessellation with DNA Origami Geometries” Shuoxing Jiang, Xiaodong Qi, Fei Zhang, Yan Liu and Hao Yan. DNA 24, Jinan, China, 2018.

84. “Structure of a Self-Assembled Three-Dimensional DNA Crystal Framework for the Precise Organization of Biomaterials” Chad R. Simmons, Tara MacCulloch, Fei Zhang, Yan Liu, Nicholas Stephanopoulos and Hao Yan. FNANO20, Snowbird, Utah, April, 2020.

**PATENTS**

1. [Self-Assembled Nucleic Acid Nanoarrays And Uses Therefor](http://scholar.google.com/citations?view_op=view_citation&hl=en&user=urBf8SYAAAAJ&cstart=120&pagesize=100&citation_for_view=urBf8SYAAAAJ:rO6llkc54NcC) WO/2006/124089

Inventors: S. Lindsay, H. Yan, J. Chaput, **Y. Liu**, P. Zhang

2. [Self-Assembled Combinatorial Encoding Nanoarrays For Multiplexed Biosensing](http://scholar.google.com/citations?view_op=view_citation&hl=en&user=urBf8SYAAAAJ&cstart=120&pagesize=100&citation_for_view=urBf8SYAAAAJ:fPk4N6BV_jEC), WO Patent WO/2008/033,848, US Patent App. 12/374,259

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3. [Aptamer Probe For Locating Molecules And Method Of Use](http://scholar.google.com/citations?view_op=view_citation&hl=en&user=urBf8SYAAAAJ&cstart=120&pagesize=100&citation_for_view=urBf8SYAAAAJ:HoB7MX3m0LUC)
L Lin, H Yan, Y Liu, S Lindsay
US Patent App. 11/948,960

4. Novel Synthesis of Smart Multicolor Quantum Dots Barcode Nano/micro Structures and Applications Thereof

Provisional Patent filed

Inventors: H. Yan, Q. Wang, **Y. Liu**

5.Self-assembled Signaling Aptamer Arrays for Protein Detection

Provisional Patent filed

Inventors: H. Yan, C. Lin, **Y. Liu**

6. Building Addressable Nanoparticle Based Architectures for Sensitive Biosensing

Provisional Patent filed

Inventors: H. Yan**, Y. Liu**

7. [Quantum Dots, Rods, Wires, Sheets, And Ribbons, And Uses Thereof](http://scholar.google.com/citations?view_op=view_citation&hl=en&user=urBf8SYAAAAJ&cstart=20&pagesize=100&citation_for_view=urBf8SYAAAAJ:v6i8RKmR8ToC)
H YAN, Z DENG, Y LIU WO Patent 2,013,052,541

8. A universal method for conjugation of oligonucleotide to quantum dots spanning from UV-vis to IR emission spectrum

Provisional Patent filed

Inventors: Z. Deng, H. Yan**, Y. Liu**

**SPONSORED RESEARCH GRANTS**

**A. Current Grant Supports:**

**DOE** “Biomimetic Light Harvesting Complexes Based on Self-Assembled Dye-DNA Nanostructures” PI. Hao Yan, Co-PI. Neal Woodbury, Yan Liu, Su Lin.

**DOD-AF** Collaborative Research: “Top-down algorithmic design of structured nucleic acid assemblies” **PI: Hao Yan, Co-PI: Y. Liu** ($560,755, 4/1/2016 - 3/31/2020, Liu’s share 50%)

1. **Completed Grants**

**NSF** “A biomimetic dynamic self-assembly system programmed using DNA nanostructures” **PI. Yan Liu. (**$299,957. 3 years, 07/16 - 06/19, Liu’s share 100%)

**DOE**“DNA nanostructure directed designer excitonic networks”

PI. Hao Yan. Co-PIs: Neal Woodbury, Mark Bathe, **Yan Liu**, David Whitten. ($899,000, 3 years, 08/16-06/19, Liu’s share 15%)

**DOD-NAVY-ONR** “Mass Spectrometry Instrument for Mass Determination of Protein and Nucleic Acid Conjugates” **PI. Hao Yan.** **Co-PIs: Yan Liu**, Alex Green, NickStephanopoulos, Jeremy Mills, ($300,000.00 3 years, 09/15 – 08/18, Liu’s share 20%)

**DOD-Navy-ONR** “Self-Replicating DNA Nanostructures”. **PI. H. Yan, Co-PI: Y. Liu, (3 years, $450,000, Liu’s share 50%,** 09/15-08/18)

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| **NSF “**Self-assembling Quasi-crystals from DNA Tiles**”** **PI. H. Yan, Co-PI: Y. Liu, (3 years, $390,000, Liu’s share 50%)** 07/14-7/17**MURI DOD-Navy-ONR** “Translating Biochemical Pathways to Non-Cellular Environment” PI: H. Yan, **Co-PI: Y. Liu,** N. Woodbury, D. Seo, M. Bathe (MIT), W. Shih (Harvard), N. Walters (Michigan), 08/12-07/17 (5 years, **$6,250,000**, **Liu’s share 10%)****DOD-ARMY-ARO** W911NF-11-1-0137 “Molecular engineering of self-assembled nanoreactors” |
|  PI: H. Yan, **Co-PI: Y. Liu,** 5/1/2011 - 4/30/2015 **(4 years,** $485,000.00, Liu’s share 50%) |

#### NIH-R01 R01 GM088818 “Water Soluble Nanoarrays for Single-Cell Proteomics”,

PI: H. Yan, **Co-PI:** S. Lindsay, D. Meldrum; **Y. Liu.**  08/2009-08/2014 **(5 years, $1,800,000, Liu’s share 25%)**

**NSF** DMR-1104373 “DNA Origami Nanostructures with Complex Curvatures in 3D Space” 09/15/2011 – 08/31/2014

PI: H. Yan, Co-PI: **Y. Liu. (3 years, $400,000, Liu’s share 50%)**

**DOE** “EFR Center for Bio-inspired Solar Fuel Production”

Director: D. Gust, PIs: J. Allen, P. Fromme, G. Ghirlanda, A. Jones, **Y. Liu**, C. Miller, A. Moore, T. Moore, K. Redding, D. Seo, H. Yan. 08/2009-08/2014 **(5 years, $14,020,000, Liu’s share** **9%)**

**DOD-ONR** N00014-09-1-1118 “DNA Based Three-dimensional Nanofabrication” 08/09/2009-08/08/2013

PI: H. Yan, **Co-PI:** S. Lindsay (ASU), **Y. Liu** (ASU), with 6 subcontractors **(4 years, $3,200,000, Liu’s share 11%)**

**DOD-ONR** N00014-11-1-0727 “Colloidal Synthesis of Highly Tunable Semiconductor Quantum Materials” 05/01/2011 – 04/30/2014

PI: **Y. Liu**, Co-PI: Z. Deng **(3 years, $209,998, Liu’s share 75%)**

Virginia G. Piper Personalized Medicine Bridge Awards, “DNA Nanoscaffold Directed Assembly of Programmable Zinc Finger Protein Mimics”, **$62,158**, 04/01/2012-03/31/2013

PI: H. Yan, **Co-PI: Y. Liu,** N. Woodbury.

**DOD-ARO** W911NF-11-1-0416 “Confocal Raman Microscope for Imaging Surface Enhanced Raman Scattering” 06/15/2011 – 06/14/2012

PI: **Y. Liu. (1 year, DURIP instrument grant, $175,000, Liu’s share 100%)**

**NSF-CRET** “DNA directed deterministic positioning of nanophotonic elements”

**PI: Y. Liu**. 08/01/2008-07/31/2012. **(3 years, $200,748, Liu’s share 100%)**

**DOD-ARO** “Self-assembling DNA Architectures for Bio-inspired Engineering of Discrete and Multifunctional Nanostructures”

PI: H. Yan, **Co-PI: Y. Liu**, 08/01/2008-07/31/2011. (**3 years,** **$300,000, Liu’s share 50%**)

**NIH** 1R21CA141021-01A2 “Tunable DNA-nanostructure to induce NK-mediated killing of tumor cells” 05/01/2010 – 04/30/2012

PI: Y. Chang, Co-PI: H. Yan and **Y. Liu. (2 years, $352,735, Liu’s share 30%)**

**DOD-ARO** “Multi-Specific Aptamer-Nanoscaffolds To Induce Aptamer-Dependent Cellular Cytotoxicity (Apdcc) Against Breast Cancer Cells”

PI: Yung Chang, Co-PI: H. Yan, **Y. Liu**, 09/15/2009-10/14/2010 **($99,001, Liu’ share 20%)**

**NSF** “Purchase of an instrument for ultrafast, multidimensional fluorescence detection and imaging” (Liu’s share 3%)