



# Prof. Ou Chen

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## EDUCATION

University of Florida	Ph. D. in Physical Chemistry	2004 ~ 2010
University of Science and Technology of China	B. S. in Chemical Physics	1999 ~ 2004

## EXPERIENCE

Assistant Professor	Brown University	2015 ~ present
Research Scientist	Massachusetts Institute of Technology	2014 ~ 2015
Consultant	QD Vision Inc.	2012 ~ 2015
Postdoctoral Associate	Massachusetts Institute of Technology	2010 ~ 2014
Advisor: Mounji Bawendi		
Research Assistant	University of Florida	2004 ~ 2010
Advisor: Y. Charles Cao		

## AWARDS AND PROFESSIONAL AFFILIATIONS

- Young Star Editor Award by Nano Research 2019
- Rising Star by Frontiers in Chemistry 2019
- Starter Grant Award by Spectroscopy Society of Pittsburgh 2017
- Brown University IMNI Seed Grant Award 2017
- Emerging Investigator by Royal Society of Chemistry 2017
- University Affairs Committee Faculty Grant Award by Xerox 2017
- Richard B. Salomon Faculty Research Award 2016
- Best Poster Award in 20-Year Quantum Dots Meeting 2015
- Procter & Gamble Research Award 2011
- Frist prize of Crow-Stasch Award 2010
- Graduate Student Fellowship Award 2008
- Excellent Undergraduate Student Award 2004
- Member of American Chemical Society Since 2008
- Member of Materials Research Society Since 2009

## INDEPENDENT REVIEW (Selected Journals)

<i>Nature</i>	<i>Science</i>
<i>Nature Materials</i>	<i>Science Advances</i>
<i>Journal of the American Chemical Society</i>	<i>Advanced Materials</i>
<i>Angewandte Chemie International Edition</i>	<i>Nano Letters</i>
<i>ACS Nano</i>	<i>Advanced Energy Materials</i>
<i>Nature Communications</i>	<i>Chemistry of Materials</i>
<i>Chem</i>	<i>Journal of Materials Chemistry</i>
<i>Nano Research</i>	<i>Nanoscale</i>
<i>Advanced Functional Materials</i>	<i>Chemical Science</i>

**PUBLICATIONS****Publications since Independent Career at Brown**

1. H. Yang, W. Fan, K. Hills-Kimball, **O. Chen\*** and L-Q. Wang\* “Introducing Manganese-Doped Lead-Halide Perovskite Quantum Dots – A Simple Synthesis Illustrating Optoelectronic Properties of Semiconductors” *Journal of Chemical Education*, 2019, *96*, 2300-2307.
2. C. Yu, X. Guo, Z. Yin, Z. Zhao, X. Li, J. Robinson, M. Muzzio, C. Barbosa, M. Shen, Y. Yuan, J. Wang, J. Antolik, G. Lu, D. Su, **O. Chen**, P. Guduru, C. Seto\* and S. Sun\* “Highly Efficient AuPd Nanoparticle Catalyst for Synthesizing Polybenzoxazole with Controlled Polymerization” *Matter*, 2019, *1*, 1-13.
3. M. Que, Z. Dai, H. Yang, H. Zhu, Y. Zong, W. Que, N. Padture, Y. Zhou\* and **O. Chen\*** “Quantum-Dot-Induced Cesium-Rich Surface Imparts Enhanced Stability to Formamidinium Lead Iodide Perovskite Solar Cells” *ACS Energy Letter*, 2019, *4*, 1970-1975.
4. J. Xu, Y. Yuan, S. Zou, **O. Chen** and D. Zhang\* “A Divide-and-Conquer Strategy for Quantification of Light Absorption, Scattering, and Emission Properties of Fluorescent Nanomaterials in Solutions. *Analytical Chemistry*, 2019, *91*, 8540-8548.
5. N. Chen, T. Cai, W. Li, K. Hills-Kimball, H. Yang, M. Que, Y. Nagaoka, Z. Liu, D. Yang, A. Dong, C. Xu, R. Zia and **O. Chen\*** “Yb- and Mn-Doped Lead-Free Double-Perovskite Cs<sub>2</sub>AgBiX<sub>6</sub> (X=Cl, Br) Nanocrystals” *ACS Applied Materials & Interfaces*, 2019, *11*, 16855-16863.
6. Y. Zhang, H. Yang, M. Chen, N. P. Padture\*, **O. Chen\***, Y. Zhou\* “Fusing Nanocrystals into Thin-Films: Fabrication of High-Performance Perovskite Solar Cells with a Laterally-Homogenous Graded-Heterojunction” *Advanced Energy Materials*, 2019, 1900243.
7. H. Zhu, Z. Fan, L. Yu, M. A. Wilson, Y. Nagaoka, D. Eggert, C. Cao, Y. Liu, Z. Wei, X. Wang, J. He, J. Zhao, R. Li, Z. Wang, M. Gruenwald, **O. Chen\*** “Controlling Nanoparticle Orientations in the Self-Assembly of ‘Patchy’ Quantum Dot-Gold Heterostructural Nanocrystals” *Journal of the American Chemical Society*, 2019, *141*, 6013-6021.
8. Y. Yuan, H. Zhu, X. Wang, D. Cui, Z. Gao, D. Su, J. Zhao and **O. Chen\*** “Cu-Catalyzed Synthesis of CdZnSe-CdZnS Alloy Quantum Dots with Highly Tunable Emission” *Chemistry of Materials*, 2019, *31*, 2635-2643.
9. J. Zhao\*, **O. Chen\***, J. He\*, S. Zou\* “Metal and Semiconductor Nanocrystals”, *Frontiers in Chemistry*, 2019, *7*, 310.
10. Y. Yuan, H. Zhu, Y. Nagaoka, R. Tan, A. H. Davis, W. Zheng, **O. Chen\*** “Dual-Color Fluorescent Mn-Doped CdS-ZnS Quantum Dots Modulated by Diarylethene Molecules” *Frontiers in Chemistry*, 2019, *7*, 145
11. Y. Nagaoka, H. Zhu, D. Eggert and **O. Chen\*** “Single Component Quasicrystalline Nanocrystal Superlattices through Flexible Polygon Tiling Rule” *Science*, 2018, *362*, 1396-1400.
12. Y. Nagaoka, R. Tan, R. Li, H. Zhu, D. Eggert, Y. Wu, Y. Liu, Z. Wang and **O. Chen\*** “Superstructures Generated from Truncated Tetrahedron Quantum Dots” *Nature*, 2018, *561*, 378-382.
13. T. Cai, H. Yang, K. Hills-Kimball, J-P. Song, E. Hofman, W. Zheng, B. M. Rubenstein and **O. Chen\*** “Synthesis of All-Inorganic Cd-Doped CsPbCl<sub>3</sub> Perovskite Nanocrystals with Dual-Wavelength Emission” *The Journal of Physical Chemistry Letters*, 2018, *9*, 7079-7084.

14. H. Yang, Y. Zhang, K. Hills-Kimball, Y. Zhou\* and **O. Chen\*** “Building Bridges between Halide Perovskite Nanocrystals and Thin-Film Solar Cells” *Sustainable Energy & Fuels*, 2018, 2, 2381-2397.
15. H. Zhu, Z. Fan, Y. Yuan, M. A. Wilson, K. Hills-Kimball, Z. Wei, J. He, R. Li, M. Gruenwald and **O. Chen\*** “Self-Assembly of Quantum Dot-Gold Hetero-Dimer Nanocrystals with Orientational Order” *Nano Letters*, 2018, 18, 5049-5056.
16. M. Heine, A. Fischer, C. Schlein, C. Jung, L. Straub, K. Gottschling, N. Mangels, Y. Yuan, S. Nilsson, G. Liebscher, **O. Chen**, R. Schreiber, R. Zechner, L. Scheja and J. Heeren “Lipolysis triggers a systemic insulin response essential for efficient energy replenishment of activated brown adipose tissue in mice” *Cell Metabolism*, 2018, 28, 644-655.
17. H. Zhu, T. Cai, M. Que, J-P. Song, B. M. Rubenstein, Z. Wang and **O. Chen\*** “Pressure-Induced Phase Transformation and Bandgap Engineering of Formamidinium Lead Iodide Perovskite Nanocrystals” *The Journal of Physical Chemistry Letters*, 2018, 9, 4199-4205.
18. F. Chen, H. Zhu, **O. Chen** and M. Zimmt “Reactive two-component monolayers template bottom-up assembly of nanoparticle arrays on HOPG” *Chemical Communications*, 2018, 54, 8056-8059.
19. Y. Chen, J. Cordero, H. Wang, D. Franke, O. Achorn, F. Freyria, I. Coroceanu, H. Wei, **O. Chen**, D. Mooney and M. G. Bawendi “A Ligand System for Flexible Functionalization of Quantum Dots via Click Chemistry” *Angewandte Chemie International Edition*, 2018, 130, 4742-4746.
20. J. Gao, A. Rao, H. Li, J. Zhang and **O. Chen** “Carrier Transport Dynamics in High Speed Black Phosphorus Photodetectors” *ACS Photonics*, 2018, 5, 1412-1417.
21. J. Lee, X. Feng, **O. Chen**, M. G. Bawendi and J. Huang “Stable, Small, Specific, Low-Valency Quantum Dots for Single-Molecule Imaging” *Nanoscale*, 2018, 10, 4406-4414.
22. D. Dey, Y. Zhou, Y. Sun, J. Jenkins, D. Kriz, S. Suib, **O. Chen**, S. Zou and J. Zhao “Excitation Wavelength Dependent Photon Anti-Bunching/Bunching from Single Quantum Dots Near Gold Nanostructures” *Nanoscale*, 2018, 10, 1038-1046.
23. Y. Chen, D. Montana, H. Wei, J. Cordero, M. Schneider, X. Le Guevel, **O. Chen**, O. T. Bruns and M. G. Bawendi “Shortwave Infrared *in vivo* Imaging with Gold Nanoclusters” *Nano Letters*, 2017, 17, 6330-6334.
24. H. Zhu, Y. Nagaoka, K. Hills-Kimball, R. Tan, L. Yu, Y. Fang, K. Wang, R. Li, Z. Wang and **O. Chen\*** “Pressure-Enabled Synthesis of Hetero-Dimers and Hetero-Rods through Intraparticle Coalescence and Interparticle Fusion of QD-Au Satellite Nanocrystals” *Journal of the American Chemical Society*, 2017, 139, 8408-8411.
25. R. Tan, Y. Yuan, Y. Nagaoka, D. Eggert, K. Wang, P. Guo, J. Zhao and **O. Chen\*** “Monodisperse Hexagonal Pyramidal and Bipyramidal Wurtzite CdSe-CdS Core-Shell Nanocrystals” *Chemistry of Materials*, 2017, 29, 4097-4108.
26. K. Hills-Kimball, Y. Nagaoka, C. Cao, E. Chaykovsky and **O. Chen\*** “Synthesis of Formamidinium Lead Halide Perovskite Nanocrystals through Solid-Liquid-Solid Cation Exchange” *Journal of Materials Chemistry C*, 2017, 5, 5680-5684.
27. O. T. Bruns, T. Bischof, D. Harris, D. Franke, Y. Shi, L. Reidemann, A. Bartelt, F. Jaworski, J. Carr, C. Rowlands, M. Wilson, **O. Chen**, R. Jain and M. G. Bawendi “Next Generation *in vivo* Optical Imaging with Short-Wave Infrared Quantum Dots” *Nature Biomedical Engineering*, 2017, 1, 0056.
28. Y. Nagaoka, K. Hills-Kimball, R. Tan, R. Li, Z. Wang and **O. Chen\*** “Nanocube Superlattices of Cesium Lead Bromide Perovskites and Pressure-Induced Phase Transformation at Atomic and Mesoscale Levels” *Advanced Materials*, 2017, 29, 1606666.
29. H. Wei, O. T. Bruns, M. G. Kaul, E. C. Hansen, M. Barch, A. Wisniowska, **O. Chen**, Y. Chen, N. Li, S. Okada, J. M. Cordero, M. Heine, C. T. Farrar, D. M. Montana, G. Adam, H. Ittrich, A. Jasanoff,

- P. Nielsen and M. G. Bawendi “Exceedingly Small Iron Oxide Nanoparticles as Positive MRI Contrast Agents” *Proceedings of the National Academy of Sciences of the United States of America*, 2017, *114*, 2325-2330.
30. R. Tan, H. Zhu, C. Cao and **O. Chen**\* “Multi-Component Superstructures Self-Assembled from Nanocrystal Building Blocks” *Nanoscale*, 2016, *8*, 9944-9961.
31. D. Franke, D. Harris, **O. Chen**, O. T. Bruns, J. Carr, M. W. Wilson and M. G. Bawendi “Continuous Injection Synthesis of Indium Arsenide Quantum Dots for Short-Wavelength Infrared Imaging” *Nature Communications*, 2016, *7*, 12749
32. R. Li, J. Zhang, R. Tan, F. Gerdes, Z. Luo, H. Xu, J. A. Hollingsworth, C. Klinke, **O. Chen** and Z. Wang “Competing Interactions between Various Entropic Forces toward Assembly of Pt<sub>3</sub>Ni Octahedra into a Body-Centered Cubic Superlattice” *Nano Letters*, 2016, *16*, 2792-2799.

#### Publications Prior to Brown

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33. R. Jensen, I. Huang, **O. Chen**, J. Choy, T. Bischof, M. Loncar and M. G. Bawendi “Optical Trapping and Two-Photon Excitation of Colloidal Quantum Dots using Bowtie Apertures” *ACS Photonics*, 2016, *3*, 423-427.
34. J. Cui, A. P. Beyler, I. Coropceanu, L. Cleary, T. R. Avila, Y. Chen, J. M. Cordero, S. L. Heathcote, D. K. Harris, O. Chen, J. Cao and M. G. Bawendi “Evolution of the Single-Nanocrystal Photoluminescence Linewidth with Size and Shell: Implications for Exciton-Phonon Coupling and the Optimization of Spectral Linewidths” *Nano Letters*, 2016, *16*, 289-296.
35. S. Dey, Y. Zhou, X. Tian, J. A. Jenkins, **O. Chen**, S. Zou and J. Zhao “An Experimental and Theoretical Mechanistic Study of Biexciton Quantum Yield Enhancement in Single Quantum Dots Near Gold Nanoparticles” *Nanoscale*, 2015, *7*, 6851-6858.
36. P. D. Chowdary, D. L. Che, L. Kaplan, **O. Chen**, K. Pu, M. G. Bawendi and B. Cui “Nanoparticle-Assisted Optical Tethering of Endosomes Reveals the Cooperative Function of Dyneins in Retrograde Axonal Transport” *Scientific Reports*, 2015, *5*, 18059.
37. X. Zhang, A. Shamirian, A. M. Jawaid, Ch. M. Tyrakowshki, L. E. Page, A. Das, **O. Chen**, A. Isovich, A. Hassan and P. T. Snee “Monolayer Silane-Coated, Water-Soluble Quantum Dots” *Small*, 2015, *45*, 6091-6096.
38. M. Abolhasani, C. W. Coley, L. Xie, **O. Chen**, M. G. Bawendi, K. F. Jensen “Oscillatory Microprocessor for Growth and in Situ Characterization of Semiconductor Nanocrystals” *Chemistry of Materials*, 2015, *27*, 6131-6138
39. G. Satat, B. Heshmat, C. Barsi, D. Raviv, **O. Chen**, M. G. Bawendi and R. Raskar “Locating and Classifying Fluorescent Tags Behind Turbid Layers Non-Invasively Using Sparsity-Based Time-Resolved Inversion” *Nature Communications*, 2015, *6*, 6796.
40. **O. Chen**, L. Riedemann, F. Etoc, H. Herrmann, M. Coppey, M. Barch, C. T. Farrar, J. Zhao, O. Bruns, H. Wei, P. Guo, J. Cui, R. Jensen, Y. Chen, D. Harris, J. Cordero, Z. Wang, A. Jasanoff, D. Fukumura, R. Reimer, D. Dahan, R. Jain, and M. G. Bawendi “Magneto-Fluorescent Core-Shell Supernanoparticles” *Nature Communications*, 2014, *5*, 5093.
41. **O. Chen**, H. Wei, A. Maurice, M. G. Bawendi and P. Reiss “Pure Colors from Core-Shell Quantum Dots” *MRS Bulletin*, 2013, *38*, 696-702. (Invited)
42. J. Cui, A. Beyler, L. Marshall, **O. Chen**, D. Harris, D. Wanger, X. Brokmann and M. G. Bawendi “Direct Probe of Spectral Inhomogeneity Reveals Synthetic Tunability of Single-Nanocrystal Spectral Linewidths.” *Nature Chemistry*, 2013, *5*, 602-606.
43. **O. Chen**, J. Zhao, V. P. Chauhan, J. Cui, C. Wong, D. Harris, H. Wei, H. S. Han, D. Fukumura, R. K. Jain and M. G. Bawendi “Compact High-Quality CdSe-CdS Core-Shell Nanocrystals with Narrow Emission Linewidths and Suppressed Blinking” *Nature Materials*, 2013, *12*, 445-451.

44. H. Wei, O. Bruns, **O. Chen** and M. G. Bawendi “Compact Zwitterion-Coated Iron Oxide Nanoparticles for *in vitro* and *in vivo* Imaging” *Integrative Biology*, 2013, 5, 108-114.
45. J. Zhao, **O. Chen**, D. B. Strasfeld and M. G. Bawendi “Biexciton Quantum Yield Heterogeneities in Single CdSe (CdS) Core (Shell) Nanocrystals and Its Correlation to Exciton Blinking” *Nano Letters*, 2012, 12 (9), 4477-4483.
46. V. P. Chauhan, T. Stylianopoulos, J. D. Martin, Z. Popović, **O. Chen**, W. S. Kamoun, M. G. Bawendi, D. Fukumura and R. K. Jain “Normalization of Tumor Blood Vessels Improves the Delivery of Nanomedicines in A Size-Dependent Manner” *Nature Nanotechnology*, 2012, 7, 383-388.
47. T. Wang, J. Zhuang, J. Lynch, **O. Chen**, Z. Wang, X. Wang, D. LaMontagne, H. Wu, Z. Wang and Y. C. Cao “Self-Assembled Colloidal Superparticles from Nanorods.” *Science*, 2012, 338, 358-363.
48. V. P. Chauhan, Z. Popović, **O. Chen**, J. Cui, D. Fukumura, R. K. Jain and M. G. Bawendi “Fluorescent Nanorods and Nanospheres for Real-Time *in vivo* Probing of Nanoparticle Shape-Dependent Tumor Penetration” *Angewandte Chemie International Edition*, 2011, 50, 11417-11420.
49. Y. Nagaoka, **O. Chen**, Z. Wang and Y. C. Cao “Structure Control of Nanocrystal Superlattices Using Organic Guest Molecules” *Journal of the American Chemical Society*, 2011, 134, 2868-2871.
50. **O. Chen**, Y. Yang, T. Wang, H. Wu, C. Niu, J. Yang and Y. C. Cao “Surface-Functionalization-Dependent Optical Properties of II-VI Semiconductor Nanocrystals” *Journal of the American Chemical Society*, 2011, 133, 17504-17512.
51. H. Wu, **O. Chen**, J. Zhuang, J. Lynch, D. LaMontagne, Y. Nagaoka and Y. C. Cao “Formation of Heterodimer Nanocrystals:  $\text{UO}_2/\text{In}_2\text{O}_3$  and  $\text{FePt}/\text{In}_2\text{O}_3$ ” *Journal of the American Chemical Society*, 2011, 133, 14327-14337.
52. **O. Chen**, D. Shelby, Y. Yang, J. Zhuang, T. Wang, C. Niu, N. Omenetto and Y. C. Cao “Excitation-Intensity-Dependent, Color-Tunable, Dual Emissions from Mn-Doped CdS/ZnS Core/Shell Nanocrystals” *Angewandte Chemie International Edition*, 2010, 49, 10132-10135.
53. Z. Wang, **O. Chen**, Y. C. Cao, K. Finkelstein, D. Smilgies, X. Lu and W. A. Bassett “Integrating In-situ High Pressure Small and Wide Angle Synchrotron X-ray Scattering for Exploiting New Physics of Nanoparticle Supercrystals” *Review Scientific Instruments*, 2010, 81, 093902-1-5.
54. **O. Chen**, J. Zhuang, F. Guzzetta, J. Lynch, A. Angerhofer and Y. C. Cao “Synthesis of Water-Soluble 2,2'-Diphenyl-1-Picrylhydrazyl Nanoparticles: A New Standard for Electron Paramagnetic Resonance Spectroscopy” *Journal of the American Chemical Society*, 2009, 131, 12542-12543.
55. J. Zhuang, A. Shaller, J. Lynch, H. Wu, **O. Chen**, A. D.Q. Li and Y. C. Cao “Cylindrical Superparticles from Semiconductor Nanorods” *Journal of the American Chemical Society*, 2009, 131, 6084-6085.
56. Y. Yang, **O. Chen**, A. Angerhofer and Y. C. Cao “Radio-Position-Controlled Doping of CdS/ZnS Core/Shell Nanocrystals: Surface Effects and Position-Dependent Properties” *Chemistry A European Journal*, 2009, 15, 3186-3197.
57. **O. Chen**, X. Chen, Y. Yang, J. Lynch, H. Wu, J. Zhuang and Y. C. Cao “Synthesis of Metal-Selenide Nanocrystals Using Selenium Dioxide as the Selenium Precursor” *Angewandte Chemie International Edition*, 2008, 47, 8638-8641.
58. Y. Yang, **O. Chen**, A. Angerhofer and Y. C. Cao “On Doping CdS/ZnS Core/Shell Nanocrystals with Mn” *Journal of the American Chemical Society*, 2008, 130, 15649-15661.
59. Y. Yang, **O. Chen**, A. Angerhofer and Y. C. Cao “Radial-Position-Controlled Doping in CdS/ZnS Core/Shell Nanocrystals” *Journal of the American Chemical Society*, 2006, 128, 12428-12429.

60. S. Yin, S. Wei, G. Xie, Q. Bian, J. Zhang, **O. Chen** and H. Yang “XAFS and XRD Studies on Structures of  $\text{Nd}_9\text{Fe}_{85-x}\text{Mn}_x\text{B}_6$  Nanocomposites” *Physica Scripta*, 2005, *T115*, 658-660.

## INVITED TALKS AND PRESENTATIONS

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1. **O. Chen** University of Washington, Department of Chemistry colloquium, *Jun. 2020, Seattle, WA. Invited Talk.*
2. **O. Chen** “From Nanocrystals to Macromaterials through Assembly Processing” *The MRS national meeting, Apr. 2020, Phoenix, AZ. Invited Talk.*
3. **O. Chen** “Self-assembly of anisotropic nanocrystals from periodic superlattices to aperiodic quasicrystals” *The MRS national meeting, Dec. 2019, Boston, MA. Invited Talk.*
4. **O. Chen** Boston University, Materials Science & Engineering seminar, *Nov. 2019, Boston, MA. Invited Talk.*
5. **O. Chen** University of Illinois Urbana-Champaign (UIUC), Materials Science seminar, *Oct. 2019, Champaign, IL. Invited Talk.*
6. **O. Chen** University of Massachusetts at Amherst, Department of Chemistry colloquium, *Oct. 2019, Amherst, MA. Invited Talk.*
7. **O. Chen** University of New Hampshire, Materials Science Seminar, *Oct. 2019, Durham, NH. Invited Talk.*
8. **O. Chen** University of Massachusetts Dartmouth, Department of Chemistry colloquium, *Oct. 2019, North Dartmouth, MA. Invited Talk.*
9. **O. Chen** Wesleyan University, Department of Chemistry Colloquium, *Sep. 2019, Middletown, CT. Invited Talk.*
10. **O. Chen** “Self-assembly of anisotropic nanocrystals from periodic superlattices to aperiodic quasicrystals” *The ACS national meeting, Aug. 2019, San Diego, CA. Invited Talk.*
11. **O. Chen** “High-quality nanomaterials from single quantum dots to their high-order architectural superstructures” *Fudan University, Aug. 2019, Shanghai, China. Invited Talk.*
12. **O. Chen** “Building high-quality nanocrystal into higher-order architectures” *National Center for Nanoscience and Technology, Aug. 2019, Beijing, China. Invited Talk.*
13. **O. Chen** “High-quality nanomaterials from single quantum dots to their high-order architectural superstructures” *Xi’an Jiaotong University, Jul. 2019, Xi’an, China. Invited Talk.*
14. **O. Chen** “High-quality nanomaterials from single quantum dots to their high-order architectural superstructures” *Northeast University, Jul. 2019, Xi’an, China. Invited Talk.*
15. **O. Chen** “High-quality quantum dot nanomaterials in biological imaging applications” *Xidian University, Jul. 2019, Xi’an, China. Invited Talk.*
16. **O. Chen** “Self-assembly of anisotropic nanocrystals from periodic superlattices to aperiodic quasicrystals” *The ACS national meeting, Aug. 2019, San Diego, CA. Invited Talk.*
17. **O. Chen** “Self-assembly of anisotropic nanocrystals” *Crystal Growth and Assembly, Gordon Research Conference, Jun. 2019, Manchester, NH. Invited Talk.*
18. **O. Chen** “Self-assembly of anisotropic nanocrystals” *Materials Research Society meeting, Apr. 2019, Phoenix, AZ. Invited Talk.*
19. **O. Chen** “Synthesis and self-assembly of anisotropic ‘patchy’ nanocrystals” *The ACS national meeting, Apr. 2019, Orlando, FL. Invited Talk.*
20. **O. Chen** “Applications of Advanced Optics and Nanotechnology in Gliomas” *Advanced CTR Lecture series, Feb. 2019, Providence, RI. Invited Talk.*
21. **O. Chen** “Self-assembly of anisotropic nanocrystals from translational ordering to atomic precision”, *University of Rhode Island, Nov. 2018, South Kingston, RI. Invited Talk.*
22. **O. Chen** “Self-assembly of anisotropic nanocrystals and their transformations under high pressure” *The ACS national meeting, Aug. 2018, Boston, MA. Invited Talk.*

23. **O. Chen** “Anisotropic nanocrystals superstructure formation and transformation: how complex we can push to?” *2018 International Seminar on Advanced Materials Research, Aug. 2018, Shanghai, China. Invited Talk.*
24. **O. Chen** “Self-assembly of QD-Au hetero-nanocrystals and their transformations under high pressure” *The ACS national meeting, Mar. 2018, New Orleans, LA. Invited Talk.*
25. **O. Chen** “Monodisperse hexagonal pyramidal and bipyramidal wurtzite CdSe-CdS core-shell nanocrystals” *The ACS national meeting, Aug. 2017, Washington, DC. Invited Talk and Selected as Best Presentation.*
26. **O. Chen** “Pressure processing of nanomaterial superstructures” *National Center for Nanoscience and Technology, Jul. 2017, Beijing, China. Invited Talk.*
27. **O. Chen** “Pressure processing of nanomaterial superstructures” *Jilin University, Jul. 2017, Beijing, China. Invited Talk.*
28. **O. Chen** “Pressure processing of nanomaterial superstructures” *Beijing Institute of Technology, Jul. 2017, Beijing, China. Invited Talk.*
29. **O. Chen** “Pressure processing of nanomaterial superstructures” *Southern University of Science and Technology of China, Jul. 2017, Beijing, China. Invited Talk.*
30. **O. Chen** “Pressure processing of nanomaterial superstructures” *Institute of Chemistry, Chinese Academy of Sciences, Jul. 2017, Beijing, China. Invited Talk.*
31. **O. Chen** “Anisotropic nanocrystal synthesis, self-assembled superstructures and pressure-induced transformations” *The 43<sup>rd</sup> Boston Regional Inorganic Colloquium (BRIC) meeting, Jun. 2017, Storrs, CT. Invited Talk.*
32. **O. Chen** “Nanocube Superlattice of Cesium Lead Bromide Perovskites and Pressure-Induced Phase Transformations” *The ACS national meeting, Apr. 2017, San Francisco, CA. Invited Talk.*
33. **O. Chen** “Materials Design and Processing from Nano to Mesoscale using High-Energy X-Ray Probe”, *at Cornell High Energy Synchrotron Source (CHESS) center, Jun. 2016, Ithaca, NY. Invited Talk and External Organizer.*
34. **O. Chen** “Nanocrystal Quantum Dots: from Synthesis towards Applications”, *Bridgewater State University, Apr. 2016, Bridgewater, MA. Invited Talk.*
35. **O. Chen** “Multicomponent Nanocrystal Superstructures”, *MRS meeting, Apr. 2016, Phoenix, AZ.*
36. **O. Chen** “Self-Assembled Nanocrystals and Their Bio-Imaging Applications” *The ACS national meeting, Aug. 2015, Boston, MA.*

#### Talks and Posters Prior to Brown

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37. **O. Chen** “Quantum Dots and Their Applications”, *University of Science and Technology of China, Jun. 2015, Hefei, China. Invited Talk.*
38. **O. Chen**, M. G. Bawendi “Multifunctional Colloidal Superparticles” *20 Years of Quantum Dots at Los Alamos, Apr. 2015, Santa Fe, NM. (Best Poster Award)*
39. **O. Chen** “High Quality Nanomaterials: From Single Quantum Dot to The Superstructures” *University of Connecticut, Aug. 2014, Storrs, CT. Invited Talk*
40. **O. Chen**, M. G. Bawendi “Multifunctional Colloidal Superparticles” *Gordon Research Conference, Jul. 2014, Smithfield, RI.*
41. **O. Chen** “Superstructures from Colloidal Nanocrystals” *Cornell High Energy Synchrotron Source (CHESS) center, Jun. 2014, Ithaca, NY. Invited Talk*
42. **O. Chen** and M. G. Bawendi “Magneto-Fluorescence Core-Shell Superparticles” *Oral presentation at the MRS meeting, Apr. 2014, San Francisco, CA.*
43. **O. Chen** and M. G. Bawendi “Nanomaterials for Biological Applications” *Oral presentation the ACS national meeting, Mar. 2014, Dallas, TX.*

44. **O. Chen** “High Quality Nanomaterials: From Single Quantum Dot to The Superstructures” *UCLA, Jan. 2014, Los Angeles, CA. Invited Talk*
45. **O. Chen** “High Quality Nanomaterials: From Single Quantum Dot to The Superstructures” *University of Michigan, Nov. 2013, Ann Arbor, MI. Invited Talk*
46. **O. Chen** and M. G. Bawendi “Quantum Dots with Combined Properties” *Oral presentation at the MRS meeting, Apr. 2013, San Francisco, CA.*
47. **O. Chen** and M. G. Bawendi “Magnetic and Fluorescent Nanocrystals for Biological Applications” *Poster presentation at the MRS meeting, Nov. 2012, Boston, MA.*
48. **O. Chen** and M. G. Bawendi “A New Generation of Core/Shell Quantum Dots” *Oral presentation the ACS national meeting, Aug. 2012, Philadelphia, PA.*
49. **O. Chen** and M. G. Bawendi “Synthesis of High-Quality Magneto-Fluorescent Multifunctional Nanoparticles” *Oral presentation at the ACS national meeting, Mar. 2012, San Diego, CA.*
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