

**Fan Wang**

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## Education

**Ph.D. in Optical Physics (holographic optical tweezers)**

**Feb 2010 – Jan 2014**

University of New South Wales, Sydney, NSW, Australia

Ph.D. Dissertation: " *Spectroscopic Characterization of Optically Trapped Semiconductor Nanowires and Nanoparticles* ", School of Physics. Supervisor: Dr Peter Reece

**M.S. in Optoelectronics and Photonics**

**Jul 2008 – Jul 2009**

University of New South Wales, Sydney, NSW, Australia

**B.A. in Science**

**Sep 2003 – Aug 2007**

Beihang University, Beijing, China

Applied Physics (Optoelectronics Engineering), Department of Science

## Employment History

**University of Sydney, Research Assistant**

**Jul 2009– Nov 2009**

In July 2009, I became a research assistant in the ARC Centre of Excellence for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) node at the University of Sydney (USYD).

**Australian National University, Postdoctoral Research Fellow**

**Aug 2013– Mar 2015**

I joined Prof Chennupati Jagadish's group at the Australian National University (ANU) as a postdoctoral fellow, expanding my knowledge and networks in nanophotonics and nanomaterials.

**Macquarie University, Postdoctoral Research Fellow**

**Mar 2015 – Mar 2017**

I began a postdoctoral position in the ARC Centre of Excellence for Nanoscale Bio-Photonics (CNBP) node at Macquarie University (MQU). I developed a novel single-particle characterisation method and supervised PhD students.

**University of Technology Sydney, Visiting Postdoctoral Research Fellow**

**Mar 2015-Mar 2017**

I was invited by Prof Dayong Jin to establish three biophotonics labs for the Institute for Biomedical Materials and Devices at UTS.

**University of Technology Sydney, Postdoctoral Research Fellow**

**Mar 2017-Jan 2019**

I officially joined the IBMD as a research theme leader in biophotonics. I assisted Prof Jin to secure two grants from UTS and extended the biophotonics labs. In 2018, I secured an early-career grant from UTS to support my research on optical tweezers.

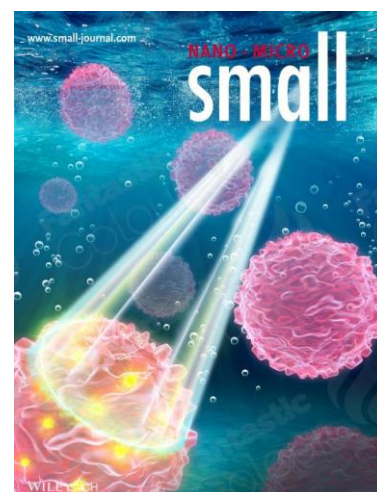
**University of Technology Sydney, Chancellor's Postdoctoral Research Fellow**

**Jan 2019 -Now**

I was awarded a Chancellor's Postdoctoral Research Fellow in UTS to establish my independent research. The award of Discovery Project grant from the ARC is enabling me to extend my super-resolution imaging technology to quantum optics. This has been deepening my knowledge and experience in biophotonics, especially in biosensing, bioimaging, optical trapping and tracking of lanthanide-doped nanomaterials in a living cell.

## Research Achievements and Contributions

My publications have been cited more than **2776** times, and my h index is **27** in Google Scholar. In my research discipline and my career level, this is considered the **top** of the range. My research articles are published in premier international journals in nanophotonics, biophotonics, and nanotechnology, typically within the top **5%** range of my disciplines. I have published as author and co-author in Nature (IF ~41.6), Nature Photonics (IF ~37.9), Nature Communications (IF ~12.3), Nano Letters (IF ~12.1), Advanced Materials (IF ~ 22), Advanced Functional Materials (IF ~13.3), ACS Nano. (IF ~13.7), Light: Science & Application (IF ~ 14.1) and Nanoscale (IF ~7.2). This has resulted in a very high average IF 10 over my publications. I have published **eleven** papers (including 5 leading author papers) in **Nano Letters**, which ranks 4<sup>th</sup> in the field of nanoscience and nanotechnology. Of my 57 journal papers, I have 10 leading author papers. In my **23 second and third authored papers**, I have made significant contributions to designing projects, conducting experiments and directly supervising postgraduate students.



Top 5 publications from last three years relevant to the proposal include:

1. *Nano Letters* (2020) – B. Liu, C. Chen, X. Di, J. Liao, S. Wen, Q.P. Su, X. Shan, Z.Q. Xu, L.A. Ju, C. Mi, **F. Wang\***, and D. Jin, “Upconversion Nonlinear Structured Illumination Microscopy”, accepted, DOI: 10.1021/acs.nanolett.0c00448
2. *Small* (2019) – Y. Liu, **F. Wang\***, H. Lu, S. Wen, C. Chen, X. Shan, G. Fang, M. Stenzel and D. Jin, "Super-resolution mapping of single nanoparticles inside spheroids", in press. [**published as the inside cover**]
3. *Nature Communication* (2018) – C. Chen<sup>†</sup>, **F. Wang\*<sup>†</sup>**, S. Wen, Q. P. Su, M. C.L. Wu, Y. Liu, B. Wang, D. Li, X. Shan, M. Kianinia, I. Aharonovich, M. Toth, S. P. Jackson, P. Xi and D. Jin, "Multi-photon near-infrared emission saturation nanoscopy using upconversion nanoparticles", vol. 9(1), 4, 2018.
4. *Light: Science & Applications* (2018) - **F. Wang\***, S. Wen, H. He, B. Wang, Z. Zhou, O. Shimon, D. Jin\*, "Microscopic inspection and tracking of single upconversion nanoparticles in living cells", vol. 7(4), 18007, 2018, [**published as the front cover**]
5. *Nature* (2017) - Y. Liu, Y. Lu\*, X. Yang, X. Zheng, S. Wen, **F. Wang**, X. Vidal, J. Zhao, D. Liu, Z. Zhou, C. Ma, J. Zhou, J.A. Piper, P. Xi\* and D. Jin\*, "Amplified stimulated emission in upconversion nanoparticles for super-resolution nanoscopy", vol. 543, pp.229-233, 2017.



### Research support income

- 2020: Discovery Early Career Researcher Award, **Fan Wang**, “Nanoscale laser cooling in physiological environment”, 2020-2022, (Chief Investigator, \$418,210).
- 2019: Discovery Projects, Milos Toth, Igor Aharonovich, Carlo Bradac, **Fan Wang**, “Super-resolution imaging techniques based on van der Waals materials”, 2019-2022, (fourth Chief Investigator, \$397,500).
- 2019: Chancellor's Postdoctoral Research Fellowship (CPDRF, UTS), **Fan Wang**, “Developing new tools for super-resolution tracking cells’ talk within a mini-organ”, 2019-2023 (Chief Investigator, \$450,000).
- 2018: Early Career Researcher Grants Scheme (ECRGS, UTS), **Fan Wang**, “Controlling photons to assemble nanoscale photonic devices”, 2018-May 2019 (Chief Investigator, \$30,000).
- 2017: Capital Expenditure Grant (UTS), Dayong Jin, **Fan Wang**, “Developing bioimaging system”, 2017-2018 (Second Chief Investigator, \$200,000).
- 2017: Capital Expenditure Grant (UTS), Dayong Jin, **Fan Wang**, “Developing super-resolution imaging system”, 2017-2018, (Second Chief Investigator, \$250,000).
- 2016: Macquarie University Research Development Grants (MURDG, MQU), Yong Liu, **Fan Wang**, Lu Yan, Tom Lawson, “Electrically stimulated regeneration of Optic Nerve”, 2016-2017, (Second Chief Investigator, \$39,680).
- 2010: University International Postgraduate Award (UIPA, UNSW), **Fan Wang**, “Optically trapped semiconductor nanowires and nanoparticles”, 2010-July 2013, (Chief Investigator, \$100,000).

### Professional Activities

- I am a reviewer for *Nano Letters*, *Light: Science & Applications*, *Journal of the American Chemical Society*, *IEEE Transactions on Medical Imaging*, *Nanoscale*, *Photonics Research*, *APL Photonics*, *Optics Express*, *Biomedical Optics Express*, *Optics Letters*, *Journal Nano-Structures & Nano-Objects*, *Journal of Raman Spectroscopy journals*, *Journal of Physics and Chemistry of Solids*
- I am a Guest-editor for *Frontiers in Chemistry*
- I am on the program committee for the 35th International Conference on the Physics of Semiconductors, Sydney, August 2020
- I chaired a session for the International Conference on Nanoscience and Nanotechnology / International Conference on BioNano Innovation, Brisbane, February 2020
- I chaired a session for the 9th International Conference on Nanophotonics, 2016

- I organised the IBMD Sydney nano seminars in 2018. More than 20 distinguished scientists (including 13 professors) from Australia and internationally presented their work at UTS.

### Invited talks

- “Upconversion nanoparticles for in-depth super-resolution imaging and ultra-strong nanoscale optical trapping”, OSA Technical Groups Webinar, November 2020
- “Nonlinear photo-response in Upconversion nanoparticles for in-depth super-resolution imaging”, SPIE Optical Engineering + Applications, August 2020
- “Upconversion nanoparticle for biophotonic applications”; BioNano Innovation (BioNano-20), June 2020;
- “NIR nanoscopy for imaging through deep tissue ” ; International Conference on Nanoscience and Nanotechnology / International Conference on BioNano Innovation, Brisbane, February 2020;
- “ In-depth super-resolution imaging of upconversion nanoparticles ” ; The International Conference on Nanomaterials & Atomaterials Science and Applications, Melbourne, February 2020; **Keynote speaker**.
- “ Near-infrared Nanoprobe for In-depth Super-resolved Biomedical Imaging and Sensing ” ; International Conference on Energy and Healthcare Materials, Sydney, February 2020;
- “Faster and deeper super-resolved tracking of single nanoparticles in living cells”; International Conference on Emerging Energy and Environmental Technologies 2019: Young Academic Forum, Sydney, December 2019;
- “To see, to touch and to feel the nanoscale world: Biophotonics applications of upconversion nanoparticles” ; The International Union of Materials Research Societies – International Conference in Asia (IUMRS-ICA 2019), Perth, September 2019;
- International Symposium on Future Materials, Wollongong, Australia, “Upconversion nanoparticles for biophotonics application”, February 2019
- The 9th International Conference on Nanophotonics (ICNP 2016), Taiwan, “Advanced Optical Microscopy enabled single nanoparticle characterisation and its application”, March 2016

### Invited Seminar

- Peking University, China; December 2019
- Beijing An Zhen Hospital, Affiliated of Capital University of Medical Sciences, China; December 2019
- Hunan University, China; December 2019
- Central South University, China; December 2019
- Swinburne university of technology, Australia; April 2019
- RMIT University, Australia; April 2019
- Consiglio Nazionale delle Ricerche, Istituto Processi Chimico-Fisici, Italy; April 2018
- The Australian National University; September 2017
- CUDOS seminar, University of Sydney, Australia; May 2016
- MQ photonics seminar, Macquarie University, Australia; April 2015
- Beihang University, China; October 2014

### Teaching experience

#### Lecturer

- Medical Imaging Technology (Endoscopy), 68202, 2017, UTS
- Medical Imaging (Endoscopy), 91403, 2017, UTS
- Medical Devices and Diagnostics (Biophotonics I; Biophotonics II), 91705, 2017, UTS
- Nanophotonics (Plasmonic waveguides and resonators), 68513, 2018, UTS
- Advanced Nanomaterials (Module 3: Optical tweezers), 68002, 2019, UTS

#### Laboratory demonstrator / Teaching assistant

- Optoelectronics Laboratory I, PHYS 9761, Semester 1 2010, UNSW
- Optoelectronics Laboratory II, PHYS 9762, Semester 2 2010, UNSW
- Brave New World, GENS4015, Semester 1 2011, UNSW

- Laser and Spectroscopy Laboratory, PHYS3770, Semester 1 2010-2013, UNSW
- Photonics Laboratory, PHYS3780, Semester 2 2010-2013, UNSW
- Foundations of Physics, 68101, 2019, UTS
- Physics in Action, 68201, 2019, UTS

Research internship

- 3<sup>rd</sup>-year students

### Commercial outcomes including patents

- Wang, F., Jin, D. & Chen, C. WO2020028942A1, 2020-02-13. (PCT, World Patent)
- Chen, C., Jin, D. & Wang, F. AU2018902855A0, 2018-08-16, (Australian Patent)

### Identifiable benefits outside academia

- Designing AR integrated motor helmet for *Heads Up Safety Systems Pty Ltd.*
- Characterizing the optical transmission efficiency of the detection tip in the cervical cancer screening device for *Truscreen.*
- Designing light diffusers in an air cleaner for *Design+Industry.*
- Radio interview on Sydney radio station 2GB 873AM about deep tissue super-resolution imaging.
- Film interview by Xinhua Net about near-infrared super-resolution microscopy.

### Other professional activities

Under my co-supervision, three honours students (UNSW) and one master student (the University of Sydney) completed their degrees in the field of optical trapping; one co-supervised PhD student completed his degree in the field of photonics application of upconversion nanoparticles; and one co-supervised PhD student completed his degree in the field of optimizing upconversion nanoparticles for nanoscale barcoding. I am currently a principal supervisor of four PhD students in the field of super-resolution imaging and optical tweezers. Under my supervision, my student obtained a *Prizmatix Young Investigator Award* in SPIE Photonics West 2019. I am also a co-supervisor of one PhD student in the field of optical characterisation of nanoparticles, and one PhD student on UV enhanced nanoparticles.

### **I. Refereed Journal Articles**

1. *Nanoscale* (2020) – L. Gao, X. Shan, X. Xu, Y. Liu, B. Liu, S. Li, S. Wen, C. Ma, D. Jin, and **F. Wang\***, “Video-rate upconversion display from optimized lanthanide ion doped upconversion nanoparticles”, accepted, DOI:10.1039/D0NR03076G
2. *Nano Letters* (2020) – B. Liu, C. Chen, X. Di, J. Liao, S. Wen, Q.P. Su, X. Shan, Z.Q. Xu, L.A. Ju, C. Mi, **F. Wang\***, and D. Jin, “Upconversion Nonlinear Structured Illumination Microscopy”, accepted, DOI: 10.1021/acs.nanolett.0c00448
3. *Small* (2019) – Y. Liu, **F. Wang\***, H. Lu, S. Wen, C. Chen, X. Shan, G. Fang, M. Stenzel and D. Jin, “Super-resolution mapping of single nanoparticles inside spheroids”, in press. [IF: 10.856; **published as the inside cover**]
4. *APL Photonics* (2019) – X.X. Xu, **Z. Zhou**, Y. Liu, **S. Wen**, Z. Guo, L. Gao and **F. Wang\***, “Optimizing passivation shell thickness of single upconversion nanoparticles using a time-resolved spectrometer”, vol. 4, 026104, 2019.
5. *Nanoscale* (2019) – X. Yuan\*, L. Li, Z. Li, **F. Wang\***, N. Wang, L. Fu, J. He, H.H. Tan and C. Jagadish, “Unexpected Benefits of Stacking Faults on the Electronic Structure and Optical Emission in Wurtzite GaAs/GaN Core/Shell Nanowires”, in press. [IF: 7.2]
6. *Nature Communication* (2018) – **C. Chen**<sup>†</sup>, **F. Wang\***<sup>†</sup>, **S. Wen**, Q. P. Su, M. C.L. Wu, Y. Liu, B. Wang, D. Li, X. Shan, M. Kianinia, I. Aharonovich, M. Toth, S. P. Jackson, P. Xi and D. Jin, “Multi-photon near-infrared emission saturation nanoscopy using upconversion nanoparticles”, vol. 9(1), 4, 2018. [IF: 12.1]
7. *Light: Science & Applications* (2018) - **F. Wang\***, **S. Wen**, H. He, B. Wang, **Z. Zhou**, O. Shimoni, D. Jin\*, “Microscopic inspection and tracking of single upconversion nanoparticles in living cells”, vol. 7(4), 18007, 2018, [IF: 14.1, citation:11; ranked 3/92 in Optics, published by Nature publication group; **published as the front cover**]
8. *Nano Letters* (2017) - **C. Ma**, X. Xu\*, **F. Wang\***, Z. Zhou, D. Liu, J. Zhao, M. Guan, C. I. Lang and D. Jin\*, “Optimal Sensitizer Concentration in Single Upconversion Nanocrystals”, vol. 17(5), pp.2858-2864, 2017, (IF: 12.1]

9. *Nano Letters* (2015) - **F. Wang\***, **Q. Gao**, K. Peng, Y. Guo, Z. Li, L. Fu, L.M. Smith, H. H. Tan and C. Jagadish, "Spatially Resolved Doping Concentration and Nonradiative Lifetime Profiles in Single Si-Doped InP Nanowires Using Photoluminescence Mapping", vol. 15, pp.3017-3023, 2015. [IF: 12.1]
10. *Nano Letters* (2013) - **F. Wang**, W. J. Toe, W. M. Lee, D. McGloin, M. Gao, H. H. Tan, C. Jagadish and P.J. Reece\*, "Resolving Stable Axial Trapping Points of Nanowires in an Optical Tweezers using Photoluminescence Mapping", vol. 13, pp.1185-1191, 2013. [IF: 12.1]
11. *Nano Letters* (2011) - **F. Wang**, P. J. Reece\*, S. Paiman, M. Gao, H. H. Tan and C. Jagadish, "Nonlinear Optical Processes in Optically Trapped InP Nanowires", vol. 11, pp.4149-4153, 2011. [IF: 12.1]
12. *Nature Photonics* (2019) – Y. Gu, **Z. Guo**, W. Yuan, M. Kong, Y. Liu, **Y. Liu**, Y. Gao, W. Feng, **F. Wang**, J. Zhou, D. Jin, and F. Li, "High-sensitivity imaging of time-domain near-infrared light transducer at 1 mW cm<sup>-2</sup> irradiance", in press, 2019. [IF: 37.9].
13. *Nature Communications* (2018) - **M. Kianinia**, C. Bradac, B. Sontheimer, **F. Wang**, T.T. Tran, M. Nguyen, S. Kim, Z.Q. Xu, D. Jin, A.W. Schell, C.J. Lobo, I. Aharonovich and M. Toth, "All-optical control and super-resolution imaging of quantum emitters in layered materials", vol. 9(1), 74, 2018, [IF: 12.1, citations: 8]
14. *Nature Photonics* (2018) - J. Zhou\*, **S. Wen**, J. Liao, C. Clarke, S. Abbas, W. Ren, **C. Mi**, **F. Wang** and D. Jin\*, "Activating the Surface Dark Layer of Upconversion Nanoparticles in a Thermal Field", vol. 12(3), pp.154-158, 2018. [IF: 37.9; citations: 31]
15. *Nature* (2017) - Y. Liu, Y. Lu\*, X. Yang, X. Zheng, **S. Wen**, **F. Wang**, X. Vidal, J. Zhao, D. Liu, **Z. Zhou**, **C. Ma**, J. Zhou, J.A. Piper, P. Xi\* and D. Jin\*, "Amplified stimulated emission in upconversion nanoparticles for super-resolution nanoscopy", vol. 543, pp.229-233, 2017. [IF: 40; citations: 143]
16. *Chemistry of Materials* (2019) – C. Mi, J. Zhou\*, **F. Wang**, G. Lin, and D. Jin, "Ultra-Sensitive Ratiometric Nanothermometer with Large Dynamic Range and Photostability", in press. [IF: 10.159]
17. *Progress in Photovoltaics: Research and Applications* (2019) – Q. Gao, Z. Li, L. Li, K. Vora, Z. Li, A. Alabadla, **F. Wang**, Y. Guo, K. Peng, Y.C. Wenas, S. Mokkaapati, F. Karouta, H.H. Tan, C. Jagadish and L. Fu, "Axial p - n junction design and characterization for InP nanowire array solar cells", vol. 27, 3 p237-244, 2019. [IF: 7.776]
18. *Journal of Materials Chemistry A* (2019) – L. Wang, D. Cui, L. Ren, J. Zhou, **F. Wang**, G. Casillas, X. Xu, G. Peleckis, W. Hao, J. Ye, S.X. Dou, D. Jin, Y. Du\*, "Boosting NIR-driven photocatalytic water splitting by constructing 2D/3D epitaxial heterostructures", vol.7, 13629-13634, 2019. [IF: 10.733]
19. *Nanoscale* (2019) –C. Mi, J. Zhou, **F. Wang** and D. Jin, "Thermally enhanced NIR-NIR anti-Stokes emission in rare earth doped nanocrystals", accepted. [IF:7.2]
20. *Nanomaterials* (2019) – F. Mirnajafizadeh, D. Ramsey, S. McAlpine, **F. Wang**, J. Stride, "Nanoparticles for Bioapplications: Study of the Cytotoxicity of Water Dispersible CdSe(S) and CdSe(S)/ZnO Quantum Dots", vol. 9, 465, 2019. [IF: 3.5]
21. *Nano Letters* (2018) – W.-Z. Xu, F.-F. Ren, D. Jevtics, A. Hurtado, L. Li, Q. Gao, J. Ye, **F. Wang**, B. Guilhabert, L. Fu, H. Lu, R. Zhang, H.H. Tan, M.D. Dawson, C. Jagadish, "Vertically Emitting Indium Phosphide Nanowire", vol. 6, pp.3414-3420, 2018. [IF: 12.1]
22. *Nanoscale* (2018) – C. Clarke, D. Liu, **F. Wang**, Y. Liu, **C. Chen**, C. Ton-That, X. Xu and D. Jin, "Large-scale dewetting assembly of gold nanoparticles for plasmonic enhanced upconversion nanoparticles", vol. 10, pp.6270-6276, 2018. [IF: 7.2].
23. *Laser Physics* (2017) –X. Li, J. Qian, R. Zhao, **F. Wang**, Z. Wang, "Dual-wavelength mode-locked fiber laser based on tungsten disulfide saturable absorber." vol 12, no. 27 (2017): 125802, [IF: 1.3].
24. *Nanoscale* (2017) – **L. Wang**, L. Ren, D. Mitchell, G. Casillas-Garcia, W. Ren, **C. Ma**, X.X. Xu, S. Wen, **F. Wang**, J. Zhou, X. Xu, W. Hao, S.X. Dou, Y. Du, "Enhanced Energy Transfer in Heterogeneous Nanocrystals for near Infrared Upconversion Photocurrent Generation.", vol. 9, no. 47 (2017): 18661-67. [IF: 7.2].
25. *Nanoscale* (2017) –H.A. Fonseka, A. S. Ameruddin, P. Caroff, D. Tedeschi, M. D. Luca, F. Mura, Y. Guo, M. Lysevych, **F. Wang**, H. H. Tan and C. Jagadish, "InP-In<sub>x</sub>Ga<sub>1-x</sub>As Core-Multi-Shell Nanowire Quantum Wells with Tunable Emission in the 1.3 – 1.55 μm Wavelength Range", vol. 9, no. 36 (2017). [IF: 7.2]
26. *ACS Photonics* (2017) –Y. Yang, Y. Zhu, J. Zhou, **F. Wang**, J. Qiu, "Integrated Strategy for High Luminescence Intensity of Upconversion Nanocrystals", vol 4, 1930-1936. [IF: 6.9]

27. *ACS Nano* (2017) – Pei, J., J. Yang, X. Wang, **F. Wang**, S. Mokkaapati, T. Lü, J.-C. Zheng, Q. Qin, D. Neshev, H. H. Tan, C. Jagadish and Y. Lu, "Excited State Biexcitons in Atomically Thin MoSe<sub>2</sub>", vol. 11(7): 7468-7475. [IF: 13.7; ranked 5/80 in Nanoscience & Nanotechnology].
28. *The Journal of Physical Chemistry C* (2017) – X. Yuan, D. Saxena, P. Caroff, **F. Wang**, M. Lockrey, S. Mokkaapati, H. H. Tan and C. Jagadish, "Strong Amplified Spontaneous Emission from High Quality GaAs<sub>1-x</sub>Sb<sub>x</sub> Single Quantum Well Nanowires", vol. 121(15): pp. 8636-8644. [IF: 4.5].
29. *Nanotechnology* (2017) – K. Peng, P. Parkinson, Qian, Gao, J. Boland, Z. Li, **F. Wang**, S. Mokkaapati, L. Fu, M. Johnston, H. Tan and C. Jagadish, "Single n<sup>+</sup>-i-n<sup>+</sup> InP nanowires for highly sensitive terahertz detection", vol. 28 (12), 2017. [IF:3.4].
30. *Journal of Materials Chemistry C* (2016) – D. Liu, X. Xu, **F. Wang**, J. Zhou, C. Mi, L. Zhang, Y. Lu, C. Ma, E. Goldys, J. Lin and D. Jin, "Emission stability and reversibility of upconversion nanocrystals", vol 4, pp. 9227-9234, Sep 2016. [IF: 5.97].
31. *Nanotechnology* (2016) – G. Zhang, Z. Li, X. Yuan, **F. Wang**, L. Fu, Z. Zhuang, F. Ren, B. Liu, R. Zhang, H. Tan and C. Jagadish, "Single nanowire green InGaN/GaN light emitting diodes", vol. 27, no. 43 (2016): 435205. [IF: 3.4]
32. *ACS Photonics* (2016) – X. Yang, K. Zhanghao, H. Wang, Y. Liu, **F. Wang**, X. Zhang, K. Shi, J. Gao, D. Jing and P. Xi, "Versatile Application of Fluorescent Quantum Dot Labels in Super-resolution Fluorescence Microscopy", vol. 3, no. 9 (2016): 1611-18. [IF: 6.9]
33. *The Journal of Physical Chemistry Letters* (2016) – C. Ma, X. Xu, **F. Wang**, Z. Zhou, S. Wen, D. Liu, J. Fang, C. I. Lang and D. Jin, "Probing the Interior Crystal Quality in the Development of More Efficient and Smaller Upconversion Nanoparticles", vol. 7 (16), 3252-3258 [IF: 8.7].
34. *Journal of Materials Science* (2016) - F. Mirnajafizadeh, **F. Wang**, P. Reece, and J. A. Stride, "Synthesis of type-II CdSe(S)/Fe<sub>2</sub>O<sub>3</sub> core/shell quantum dots: the effect of shell on the properties of core/shell quantum dots", vol. 51, pp. 5252-5258, 2016, [IF: 3].
35. *Materials Science and Engineering: C* (2016) - F. Mirnajafizadeh, D. Ramsey, S. McAlpine, **F. Wang**, P. Reece, and J. A. Stride, "Hydrothermal synthesis of highly luminescent blue-emitting ZnSe(S) quantum dots exhibiting low toxicity", vol. 64, pp. 167-172, 2016. [IF: 5]
36. *Analytical Chemistry* (2016) – X. Zheng, X. Zhu, Y. Lu, Z. Zhao, W. Feng, G. Jia, **F. Wang**, F. Li and D. Jin, "High-contrast visualization of upconversion luminescence in mouse mice using time-gating approach", vol. 88, no. 7 (2016): 3449-3454. [IF: 6.3, ranked 4/74 in Chemistry, Analytical; citations: 28].
37. *Advanced Materials* (2016) – R. Xu, J. Yang, Y. W. Myint, J. Pei, **F. Wang** and Y. Lu, "Exciton brightening in monolayer phosphorene via dimensionality modification", vol. 28, no. 18 (2016): 3493-3498. [IF: 22, ranked 2/80 in Nanoscience & Nanotechnology]
38. *Nano Letters* (2016) – A. Andre Arroyo, B. Gupta, **F. Wang**, J. Gooding and P. J. Reece, "Optical manipulation and spectroscopy of silicon nanoparticles exhibiting dielectric resonances", vol. 16, no. 3 (2016): 1903-10. [IF: 12.1].
39. *ACS Nano* (2016) – R. Xu, S. Zhang, **F. Wang**, J. Yang, Z. Wang, J. Pei, Y. Myint, B. Xing, Z. Yu, L. Fu, Q. Qin and Y. Lu, "Extraordinarily Bound Quasi-One-Dimensional Trions in Two-Dimensional Phosphorene Atomic Semiconductors", vol. 10, pp. 2046-2053, 2016/02/23, [IF: 13.7].
40. *Light: Science & Applications* (2016) – J. Yang, Z. Wang, **F. Wang**, R. Xu, J. Tao, S. Zhang, Q. Qing, B.L. Davides, C. Jagadish, Z. Yu and Y. Lu, "Atomically Thin Optical Lenses and Gratings", vol. 5, p. e16046, 2016/03/11, [IF: 14.1].
41. *Nano Letters* (2015) - D. Saxena, **F. Wang**, Q. Gao, S. Mokkaapati, H. H. Tan and C. Jagadish, "Mode Profiling of Semiconductor Nanowire Lasers", vol. 15, pp.5342-5348, 2015. [IF: 12.1; citations: 32]
42. *Nanotechnology* (2015) – Z. Li, X. Yuan, L. Fu, K. Peng, **F. Wang**, P. Caroff, T. White, H.H. Tan and C. Jagadish, "Room temperature GaAsSb single nanowire infrared photodetectors", vol. 25, pp. 445202, 2015 [IF: 3.4]
43. *Biomedical Optics Express* (2015) – A. Andres-Arroyo, **F. Wang**, W. J. Toe and P. Reece, "Intrinsic heating in optically trapped Au nanoparticles measured by dark-field spectroscopy", vol. 6, pp. 3646-3654, 2015/08/27, [IF: 3.3; ranked 9/92 in Optics].

44. *Advanced Functional Materials* (2015) – X. Yuan, P. Caroff, **F. Wang**, Y. Guo, Y. Wang, H.E. Jackson, S. M. Leigh, H.H. Tan and C. Jagadish, "Antimony Induced {112}A Facetted Triangular GaAs<sub>1-x</sub>Sbx/InP Core/Shell Nanowires and Their Enhanced Optical Quality", vol. 25, pp. 5300-5308, 2015/09/02, [IF: 13.3; ranked 6/80 in Nanoscience & Nanotechnology].
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