

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

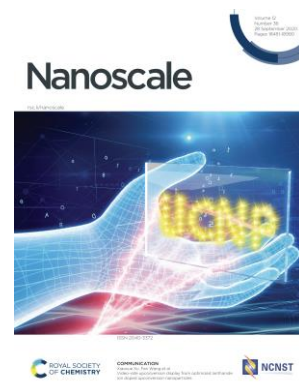
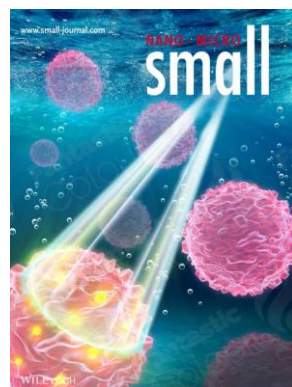
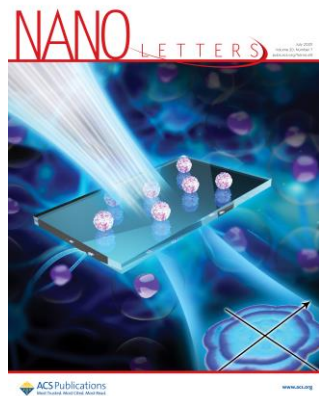
Jan 2019 -Now

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 **3301** times, and my h index is **28** in Google Scholar. In my research discipline and my career level, this is considered **top** of the range. According to SciVal, my research impact ranked **4th** /162 (2015-2019) in the field of Upconversion Nanoparticles, **9th** /108 (2010-2019) in Optical Tweezers, **7th** /121 (2017-2020) in super-resolution microscopy, and **8th** /99 (2015-2019) in Semiconductor Nanowires, in Australia. In the **worldwide** region, my research ranked **82nd** (2017-2020) and **98th** (2015-2019) in the fields of Upconversion Nanoparticles and Semiconductor Nanowires, respectively. 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 in Nature (IF ~42.7), Nature Nanotechnology (IF ~31.5), Nature Photonics×2 (IF ~31.2), Nature Communications×5 (IF ~12.1), Nano Letters×11 (IF ~11.2), Advanced Materials×3 (IF ~ 27.3), Advanced Functional Materials (IF ~16.8), ACS Nano (IF ~14.6), Light: Science & Application×4 (IF ~ 14.1), and Small (IF~11.5). 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** (**4th** in nanotechnology). Of my **63** journal papers, I have **14** leading author papers. In my **27**

second and third authored papers, I have made significant contributions to designing projects, conducting experiments and directly supervising students.



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

1. *Nature Nanotechnology* (2021) – Shan, Xuchen[†], **Wang, Fan**^{*†}, Wang, Dejiang, Wen, Shihui, Chen, Chaohao, Di, Xiangjun, Nie, Peng, Liao, Jiayan, Liu, Yongtao, Ding, Lei, Reece, Peter* & Jin, Dayong*, “Optical tweezers beyond refractive index mismatch using highly doped nanoparticles”, accepted. [IF: 31.5] [co-first author, co-corresponding author]
2. *Nature Communication* (2021) – Liu, Yongtao[†], Zhou, Zhiguang[†], **Wang, Fan**^{*†}, Kewes, Günter, Wen, Shihui, Burger, Sven, Wakiani, Majid Ebrahimi, Xi, Peng, Yang, Jiong, Yang, Xusan, Benson, Oliver* & Jin, Dayong*, “Axial Localization and Tracking of Self-interference Nanoparticles by Lateral Point Spread Functions”, accepted. [IF: 12.1] [co-first author, co-corresponding author]
3. *Advanced Materials* (2021) – Chaohao Chen, Baolei Liu, Yongtao Liu, Jiayan Liao, Xuchen Shan, **Fan Wang**^{*}, and Dayong Jin*, “Heterochromatic Nonlinear Optical Responses in Upconversion Nanoparticles for Super-resolution Nanoscopy”, accepted [IF: 27] [co-corresponding author]
4. *Nature Communication* (2018) – C. Chen[†], **F. Wang**^{*†}, 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. [co-first author, co-corresponding author]
5. *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] [first author, co-corresponding author]

Research support income

- 2021: Linkage Infrastructure, Equipment and Facilities (LE210100125, ARC), “National Facility for Infrared Technologies”, 2021-2022, (sixth Chief Investigator, \$837,000.00)
- 2020: Discovery Early Career Researcher Award (DE200100074, ARC), **Fan Wang**, “Nanoscale laser cooling in physiological environment”, 2020-2022, (Chief Investigator, \$418,210).
- 2019: Discovery Projects (DP190101058, ARC), 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*, *Optica*, *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*, *Frontiers in Chemistry section catalysis and Photocatalysis*, *Journal of Physics D Applied Physics*, *Advanced devices and instrumentation*, *ACS Applied Materials & Interfaces*
- I am a Guest-editor for *Frontiers in Chemistry*
- I am a Guest-editor for *MDPI Photonics*
- I am a Guest-editor for *European Physical Journal*
- 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

- Electronics and Circuits, 48520, 2020-2021, UTS
- 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

- 3rd-year students
- Capstone project

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. Under my supervision, my PhD students Yongtao Liu and Baolei Liu were the winners of UTS 2020 HDR Student Paper of the Month.

Refereed Journal Articles

1. *Nature Nanotechnology* (2021) – Shan, Xuchen[†], **Wang, Fan***[†], Wang, Dejiang, Wen, Shihui, Chen, Chaohao, Di, Xiangjun, Nie, Peng, Liao, Jiayan, Liu, Yongtao, Ding, Lei, Reece, Peter* & Jin, Dayong*, “Optical tweezers beyond refractive index mismatch using highly doped nanoparticles”, accepted. [IF: 31.5]
2. *Nature Communication* (2021) – Liu, Yongtao[†], Zhou, Zhiguang[†], **Wang, Fan***[†], Kewes, Günter, Wen, Shihui, Burger, Sven, Wakiani, Majid Ebrahimi, Xi, Peng, Yang, Jiong, Yang, Xusan, Benson, Oliver* & Jin, Dayong*, “Axial Localization and Tracking of Self-interference Nanoparticles by Lateral Point Spread Functions”, accepted. [IF: 12.1]
3. *Advanced Materials* (2021) – Chaohao Chen, Baolei Liu, Yongtao Liu, Jiayan Liao, Xuchen Shan, **Fan Wang***, and Dayong Jin*, “Heterochromatic Nonlinear Optical Responses in Upconversion Nanoparticles for Super-resolution Nanoscopy”, accepted [IF: 27]
4. *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”, 2020,12, 18595-18599. [**published as a cover paper**]
5. *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”, 20, 7, 4775–4781. [**published as a cover paper**]
6. *Small* (2020) – 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”, 16 (6), 1905572. [IF: 10.856; **published as a cover paper**]
7. *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.
8. *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/GaInP Core/Shell Nanowires”, in press. [IF: 7.2]
9. *Nature Communication* (2018) – C. Chen[†], **F. Wang***[†], 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]
10. *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, [IF: 14.1, citation:11; ranked 3/92 in Optics, published by Nature publication group; **published as the front cover**]
11. *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)
12. *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]
13. *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]
14. *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]
15. *Nature Communication* (2020) – Y. Shang, J. Zhou, Y. Cai, **F. Wang***, A.F. Bravo, C. Yang, L. Jiang & D. Jin, “Low threshold lasing emissions from a single upconversion nanocrystal”, vol. 11, 6156
16. *Nature Communication* (2020) – S. Wen, Y. Liu, **F. Wang***, G. Lin, J. Zhou, B. Shi, Y.D. Suh, D. Jin, “Nanorods with multidimensional optical information beyond the diffraction limit”, vol. 11(1), 1-8
17. *Light: Science & Applications* (2020) – A. Sharma, L. Zhang, O. Tollerud, M. Dong, Y. Zhu, R. Halbach, T. Vogl, K. Liang, H T. Nguyen, **F. Wang***, S. Sanwlani, S. K. Earl, D. Macdonald, P. K. Lam, J. A. Davis and Y. Lu, “Supertransport of excitons in atomically thin organic semiconductors at the 2D quantum limit”, vol. 9, 116, 2020

18. *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]
19. *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]
20. *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⁻² irradiance”, in press, 2019. [IF: 37.9].
21. *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]
22. *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]
23. *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]
24. *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]
25. *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]
26. *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]
27. *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].
28. *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]
29. *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].
30. *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].
31. *Nanoscale* (2017) –H.A. Fonseca, 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_xGa_{1-x}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]
32. *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]
33. *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 MoSe₂.", vol. 11(7): 7468-7475. [IF: 13.7; ranked 5/80 in Nanoscience & Nanotechnology].
34. *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_{1-x}Sb_xSingle Quantum Well Nanowires”, vol. 121(15): pp. 8636-8644. [IF: 4.5].

35. *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⁺-i-n⁺ InP nanowires for highly sensitive terahertz detection”, vol. 28 (12), 2017. [IF:3.4].
36. *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].
37. *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, “Sinlge nanowire green InGaN/GaN light emitting diodes”, vol. 27, no. 43 (2016): 435205. [IF: 3.4]
38. *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]
39. *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].
40. *Journal of Materials Science* (2016) - F. Mirnajafizadeh, **F. Wang**, P. Reece, and J. A. Stride, "Synthesis of type-II CdSe(S)/Fe₂O₃ core/shell quantum dots: the effect of shell on the properties of core/shell quantum dots", vol. 51, pp. 5252-5258, 2016, [IF: 3].
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