

# Jian Wei (危健)'s Curriculum Vitae

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## Personal

Male. Married with one child. Citizen of P. R. China. Permanent resident of US.

## Education and Training

Postdoctoral fellow, Nov 2006 - Jun 2010. [Northwestern University](#), Evanston, Illinois.

Ph.D., Physics, Nov 2006. [Rutgers, the State University of New Jersey](#), Piscataway, New Jersey.

M.S., Physics, Jul 2000. [Beijing University](#), P. R. China.

B.S.E., Solid State Electronics, Jul 1996. [Huazhong University of Science & Technology](#), China.

## Research Experience

Nov 2006 - Jun 2010, Northwestern University, with [Prof. Venkat Chandrasekhar](#)

- Noise cross-correlation as a probe for non-local entanglement.
- Nano-scale hybrid superconducting/normal-metal (or ferromagnetic) devices. Fluctuation superconductivity.
- Noise in point contact measurements of iron-based superconductor.

Sep 2000 - Oct 2006, Rutgers, with [Prof. Michael Gershenson](#).

- Ultra sensitive infrared photon detector based on nano-scale hot electron transition edge sensor.
- Dephasing by microwave radiation without overheating in 1-D metal wires.
- Developed a noise cross-correlation set-up.

Sep 1997- Jul 2000, Peking University, with Prof. Shousheng Yan (阎守胜).

- 1/f noise of metal-insulator transition of colossal magnetoresistance thin film.
- Planar superconductor/normal-metal/superconductor junctions.
- Weak localization in 2D metallic films.

Sep 1995- Jul 1996 Huazhong University of Sci. & Tech., with Prof. Xingjie Liu (刘兴阶)

- Composite ceramics with negative temperature coefficient.

## Teaching/Mentoring Experience

- 2007-present, Northwestern, mentor for undergraduate and graduate students in Prof. Venkat Chandrasekhar's group.
- 2005-6, Rutgers, mentor for undergraduate students in Prof. Michael Gershenson's group.
- 2004, Rutgers, TA for "Modern Instrumentation" taught by Prof. Terence Watts.

- 2002, Rutgers, TA for “Modern Instrumentation” taught by Prof. Frank Zimmermann.

## References

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[Michael E. Gershenson](#)

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## Publication List

1. [Jian Wei](#), Goutam Sheet, and Venkat Chandrasekhar, “[Low frequency noise in ballistic Nb/Ag point contacts](#),” **Appl. Phys. Lett.** 97, 062507 (2010).
2. [Jian Wei](#) and V. Chandrasekhar, “[Positive noise cross-correlation in hybrid superconducting and normal-metal three-terminal devices](#),” **Nature Physics** 6, 494 - 498 (2010). Reviewed in the [News and Views](#) of Nature Nanotechnology 5, 11-12 (2010).
3. [Jian Wei](#), P. Cadden-Zimansky, P. Virtanen, and V. Chandrasekhar, “Flux-tunable barrier in proximity Josephson junctions,” [arXiv:0909.1591](#).
4. P. Cadden-Zimansky, [Jian Wei](#), and V. Chandrasekhar, “[Cooper Pair Mediated Coherence Between Two Normal Metals](#),” **Nature Physics** 5, 393-397 (2009). Highlighted by **Nature Physics News and Views** 5, 384 - 385 (2009). Also featured in *Virtual Journal of Applications of Superconductivity* and *Virtual Journal of Nanoscale Science and Technology*.
5. B. S. Karasik, S. V. Pereverzev, D. Olaya, [Jian Wei](#), M. E. Gershenson, and A. V. Sergeev, “[Noise Measurements in Hot-Electron Titanium Nanobolometers](#),” **IEEE Trans. Appl. Supercond.**, 19, pp. 532-535 (2009).
6. [Jian Wei](#), P. Cadden-Zimansky, and V. Chandrasekhar, “[Observation of large  \$h/2e\$  and  \$h/4e\$  oscillations in a proximity dc superconducting quantum interference device](#),” **Appl. Phys. Lett.** 92, 102502 (2008). Also featured in *Virtual Journal of Applications of Superconductivity* and *Virtual Journal of Nanoscale Science and Technology*.
7. [Jian Wei](#), D. Olaya, S. Pereverzev, B.S. Karasik, A.V. Sergeev, and M. E. Gershenson, “[Ultra-Sensitive Hot-Electron Nanobolometers for Terahertz Astrophysics](#)”, **Nature Nanotechnology** 3, 496-500 (2008); Highlighted by **Nature Nanotechnology News and Views**. Media coverage: [News release by NASA](#), [news release by Rutgers](#) , article on [Philadelphia Inquirer](#), and reports by [ScienceDaily](#), [R&D Magazine](#), [physorg.com](#), [Yahoo News](#), [rfglobalnet.com](#), [nanotechweb.org](#), [MalaysiaSun.com](#) etc.
8. B.S. Karasik, S. Pereverzev, D. Olaya, [Jian Wei](#), M. E. Gershenson, and A.V. Sergeev, “[Electrical NEP in hot-electron titanium superconducting bolometers](#)”, SPIE Proceedings on Astronomical Telescopes & Instrumentation 2008. Proc. SPIE, Vol. 7020, 70200E-70200E-8 (2008).
9. B.S. Karasik, D. Olaya, [Jian Wei](#), S. Pereverzev, M.E. Gershenson, J.H. Kawamura, W.R. McGrath, and A.V. Sergeev, “[Record low NEP in the hot-electron titanium nanobolometers](#),” **IEEE Trans. Appl. Supercond.**, 17, pp. 293-297 (2007).
10. David Olaya, [Jian Wei](#), Sergei Pereverzev, Boris S. Karasik, Jonathan H. Kawamura, William R. McGrath, Andrei V. Sergeev, and Michael E. Gershenson, “[An ultrasensitive hot-electron bolometer for low-background SMM applications](#),” *Astronomical Telescopes and Instrumentation* Proc. SPIE, Vol. 6275, 627506 (Jun. 27, 2006).
11. [Jian Wei](#), S. Pereverzev, and M. E. Gershenson, “[Microwave-Induced Dephasing in One-Dimensional Metal Wires](#),” **Phys. Rev. Lett.** 96, 086801 (2006). Also featured in *Virtual Journal of Nanoscale Science and Technology*.

12. [Jian Wei](#), S. Pereverzev, and M. E. Gershenson, “[Microwave-Induced Dephasing in One-Dimensional Metal Wires](#),” *Proc. of LT24*, 850, 1415-1416 (2006).
13. [Jian Wei](#), “[Cross correlation measurements of thermal noise with cooled transformer](#),” *Proc. of LT24*, 850, 1663-1664 (2006).
14. B.S. Karasik, A.V. Sergeev, D. Olaya, [Jian Wei](#), M.E. Gershenson, J. H. Kawamura and W.R. McGrath, “A photon counting hot-electron bolometer for space THz spectroscopy,” *Proc. of the 16th International Symposium on Space Terahertz Technology*, May 2-4, 2005, pp. 543-548.
15. [Jian Wei](#), “[Fast convergence of white noise cross-correlation measurement achieved by vector average in both frequency and time domain](#),” arxiv.org/abs/physics/0405041, unpublished.
16. B.S. Karasik, B. Delaet, W.R. McGrath, [Jian Wei](#), M.E. Gershenson, and A.V. Sergeev, “[Experimental Study of Superconducting Hot-Electron Sensors for Submm Astronomy](#),” **IEEE Trans. Appl. Supercond.**, 13(2), Part 1, 188-191 (2003).
17. J. Fay, [Jian Wei](#), M.E. Gershenson, and H. Kojima, “[Interdigital capacitor as solid He-4 height detector](#),” **Physica B** 329, 413-414 (2003).
18. B.S. Karasik, B. Delaet, W.R. McGrath, H.G. LeDuc, [Jian Wei](#), M.E. Gershenson, and A.V. Sergeev, “SubMM Wave Superconducting Hot-Electron Direct Detectors,” *Proc. FIR, SubMM & MM Detector Technology Workshop*, 1-3 April 2002, Monterey, CA, pp. 356-359.
19. [Jian Wei](#), W. Liu, W. Guan, G. Xiong, and S.S. Yan, “[Observation of strong reduction of 1/f noise in PrSrMnO films](#),” **J. Phys. Condens. Matter** 14, 11821-9 (2002).
20. [Jian Wei](#), Y. Hou, P.C. Song, M. Chen, K. Wu, and S.S. Yan. “[Observation of a trap effect in N/SNS/N structure](#),” Elsevier. **Physica C** 341-348, pt.3, 1591-2 (2000).
21. Song, P.C., [Jian Wei](#), Wu, K., Hou, Y.M., and Yan, S.S., “[Weak localization of ultra-thin dilute Cu-Nb films](#),” **Chinese J. Low Temp. Phys.** 22, 86-91 (2000), in Chinese.