CURRICULUM VITAE

Name: Xiaorui Zheng
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EMPLOYMENT

03/2017 - present	**City University of New York** SwissLitho Postdoctoral Fellow	New York, United States
05/2016 - 02/2017	**University of California, San Diego** Postdoctoral Research Fellow	San Diego, United States
01/2016 - 05/2016	**Swinburne University of Technology** Postdoctoral Research Fellow	Melbourne, Australia

EDUCATION

06/2012 - 03/2016	**Swinburne University of Technology** Ph. D in Physics (Nanophotonics)	Melbourne, Australia
09/2009 - 06/2012	**Institute of Physics, Chinese Academy of Sciences** M.S. in Physics (Plasmonics)	Beijing, China
09/2005 - 06/2009	**Wuhan University** B.S. in Physics	Wuhan, China

AWARDS

1. AOS Warsash Science Communication Prize in Optics 2016 ($500)
2. Australian Nanotechnology Network (ANN) Overseas Travel Fellowship (2016) ($5000)
3. Chinese Government Award for Outstanding Self-Financed Students Abroad (2015) ($6000)
4. Optical Society of America (OSA) Incubic Milton Chang Travel Grant (2014) (the only recipient in Australia) ($500)
5. Conference on Optics, Atoms and Laser Applications (KOALA) Travel Grant (2014) (top 6%) ($250)
6. Best Student Talk Prize, Australia and New Zealand Conference on Optics and photonics (ANZCOP) (2013) (top 2.7%) ($500)
7. First Place, ARC Centre of Excellence Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) Student Challenge (2013) ($1500)
8. Swinburne University Postgraduate Research Award (2012)

SKILLS

1. **Optical characterizations:** Ultraviolet-visible spectrometer, Fourier transform infrared spectrometer, Ellipsometer, Raman spectrometer, N-STORM Super Resolution Microscope, Atomic force microscopy, Near-field scanning optical microscope,

2. **Optical simulations:** FDTD, CST, COMSOL, Matlab.
3. **Nanolab:** Ultraviolet lithography, Reactive-ion etching, Scanning electron microscope, Electron-beam lithography, Focused ion beam, Thin film deposition (Sputtering and electron beam deposition), 3D Optical profiler
4. **Materials synthesis:** graphene family thin films synthesis and processing.
5. **Laser systems:** Free space ultrafast laser system, 3D laser printing system, Z-scan measurement system.
6. **Programming:** LabView, Python, Matlab.
7. **Presenting skills:** Best student presentation prize.
8. **Writing skills:** high-quality research publications and grants applications.

RESEARCH EXPERIENCE

1. High quality 2D materials processing
2. Linear and nonlinear optical property characterizations of 2D materials
3. Experimentally demonstration of functional 2D devices (flat lenses, polarizers, filters...)
4. Build up the automatic data acquisition ultrafast laser system for Z-scan measurement
5. Photonic devices manufacturing on 2D materials using 3D laser printing technique and clean-room techniques

PUBLICATIONS

Peer reviewed journal articles:

Published:

1. **X. Zheng**, H. Lin, T. Yang, B. Jia "Laser trimming of graphene oxide for functional photonic applications", ***Journal of Physics D: Applied Physics***, in press (2016)
2. **X. Zheng**, H. Lin, B. Jia, "Graphene oxide films, an emerging platform for ultrathin, light-weight, flexible photonic devices", ***Australian Optical Society (AOS) News***, 30, 29 (2016).
3. **X. Zheng**[#], B. Jia[#], H. Lin, L. Qiu, D. Li, M. Gu, "Highly efficient and ultra-broadband graphene oxide ultrathin lenses with three-dimensional subwavelength focusing", ***Nature Communications***, 6, 8433 (2015). [#]Equal contribution. [**Impact factor: 11.47**] [ISI Web of Knowledge Multidisciplinary, Sciences rank: 3/56]
4. J. Ren[#], **X. Zheng**[#], Z. Tian, D. Li, P. Wang, B. Jia, "Giant third-order nonlinearity from low-loss electrochemical graphene oxide film with a high power stability", ***Applied physics Letters***, 109, 221105 (2016). [#]Equal first author
5. *S. Fraser[#], **X. Zheng**[#], L. Qiu, D. Li and B. Jia, "Enhanced optical nonlinearities of hybrid graphene oxide films embedded with gold nanoparticles", ***Applied Physics Letters***, 107, 031112 (2015). [#]Equal first author. **[Impact factor: 3.302]** [ISI Web of Knowledge Physics, Applied rank: 21/143]
6. **X. Zheng**, B. Jia, X. Chen, M. Gu, "In Situ Third-Order Non-linear Responses During Laser Reduction of Graphene Oxide Thin Film Towards On-Chip Non-linear Photonic Devices", ***Advanced Materials***, 26, 2699 (2014). **[Impact factor: 17.493]** [ISI Web of Knowledge Physics, Applied rank: 3/143]

7. L. Chen, **X. Zheng**, Z. Du, B. Jia, M. Gu, and M. Hong, "Frozen Matrix Hybrid Optical Nonlinear System Enhanced by Light Focusing Effect", ***Nanoscale***, 7, 14982 (2015). **[Impact factor: 7.394]** [ISI Web of Knowledge Physics, Applied rank: 12/143]

In submission:

8. **X. Zheng**, B. Xu, S. Li, H. Lin, L. Qiu, D. Li, B. Jia, "Graphene oxide mid-infrared optics for high performance linear polarizers", in submission (2016).
9. H. Lin, B. Sturmberg, **X. Zheng**, M. Sterke, B. Jia, "Broadband graphene oxide perfect absorbers", in submission (2016).
10. **X. Zheng**, H. Lu, B. Jia "High performance graphene oxide polarizers based on C-shape arrays", in submission (2016).

Conferences:

Post-deadline papers (acceptance rate < 10%):

1. **X. Zheng**, B. Jia, H. Lin, L. Qiu, D. Li, M. Gu, "Femtosecond laser fabricated ultra-flat lens in a graphene oxide thin film" *Frontiers in Optics (FiO)*, Tucson, United States, Oct. 2014, **Oral (Post-deadline paper).**
2. **X. Zheng**, B. Jia, M. Gu, "Giant optical nonlinear response of graphene oxide films", *Frontiers in Optics (FiO)*, Florida, United States, Oct. 2013, **Oral (Post-deadline paper).**
3. **X. Zheng**, B. Jia, X. Chen, M. Gu, "Giant Optical Nonlinear Response of Graphene Oxide Films" *Conference on Lasers and Electro-Optics Pacific Rim (CLEO-PR)*, Kyoto, Japan, June 2013, **Oral (Post-deadline paper)**.

Oral presentations:

4. **X. Zheng**, B. Jia, H. Lin, L. Qiu, D. Li, M. Gu, "Graphene oxide thin film for photonic applications", *Conference on Optics, Atoms and Laser Applications (KOALA),* Auckland, New Zealand, Nov. 2015. **Oral**
5. **X. Zheng**, B. Jia, H. Lin, L. Qiu, D. Li, M. Gu, "Flexible ultrathin flat lens in a graphene oxide thin film", *Recent Progress in Graphene Research (RPGR)*, Lorne, Australia, Oct. 2015. **Oral**
6. **X. Zheng**, Z. Cao, B. Jia, L. Qiu, D. Li, M. Gu, "Direct patterning of C-shape arrays on graphene oxide thin films using direct laser printing" *Frontiers in Optics (FiO)*, 2014, **Oral**
7. **X. Zheng**, B. Jia, M. Gu, "Photoreduction of graphene oxide towards photonic applications", *Conference on Optics, Atoms and Laser Applications (KOALA)*, 2014, **Oral**
8. **X. Zheng**, B. Jia, H. Lin, L. Qiu, D. Li, M. Gu, "Three-dimensional light concentration with graphene oxide thin film", *Australian Institute of Physics Congress (AIP)*, Dec. 2014, **Oral**
9. **X. Zheng**, B. Jia, X. Chen, M. Gu, "Ellipsometry characterization of graphene oxide thin films through the laser-induced reduction process", *Australia and New Zealand Conference on Optics and photonics (ANZCOP)*, Perth, Dec. 2013, **Oral**
10. **X. Zheng**, B. Jia, M. Gu, "Broadband optical nonlinear activities of graphene oxide films", *Conference on Optics, Atoms and Laser Applications (KOALA)*, Sydney, Nov, 2013, **Oral**
11. **X. Zheng**, B. Jia, X. Chen, M. Gu, "Giant optical nonlinear response of graphene oxide films", *7th Chinese Association of Professionals and Scholars (CAPS)*, Melbourne, Nov. 2013, **Oral**

12. **X. Zheng**, B. Jia, “Controlling of spontaneous emission with three-dimensional metallodielectric photonic crystals”, *Conference on Optics, Atoms and Laser Applications (KOALA)*, Brisbane, Dec. 2012, **Oral**
13. B. Jia, Y. Zhang, **X. Zheng,** M. Gu, “Graphene Oxide as Antireflection Coating for Silicon Solar Cells”, *Light, Energy and the Environment*, Canberra, Dec. 2014, **Oral**
14. B. Jia, B. Mashford, **X. Zheng**, M. Gu, “Nonlinear photonic crystal in quantum dot films”, *Australia and New Zealand Conference on Optics and photonics (ANZCOP)*, Perth, Dec. 2013, **Oral**

Posters:

15. **X. Zheng**, B. Jia, M. Gu, “Direct laser fabrication on graphene oxide thin films”, *Centre of Excellence Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) Workshop*, Melbourne, Feb. 2014, **Poster**
16. **X. Zheng**, B. Jia, M. Gu, “Graphene oxide: a platform towards tunable on-chip nonlinear phtonic devices”, *Centre of Excellence Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) Board Meeting*, Sydney, Oct. 2013, **Poster**
17. **X. Zheng**, B. Jia, M. Gu, “Third-order nonlinearity measurements of the graphene-doped polymer”, *Centre of Excellence Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) Workshop*, Melbourne, Feb. 2012, **Poster**