

(2011 年以前)

## Prof. Yalin Lu, PhD in Physics

### PROFESSIONAL ACTIVITIES

---

- ‘Plasmonic Optics and THz Technology’, Symposium Organizer for PIERS2012, Kuala Lumpur, Malaysia, 2011
- ‘Surface plasmonics and the emerging applications’, Symposium Organizer, PIERS2011, Suzhou, China, 2011
- ‘Metamaterials and their applications’, Symposium Organizer for PIERS2011, Suzhou, China, 2011
- ‘First Bilateral Workshop on Advanced Energy Materials: USTC and HKIT, Chair, China, 2011
- ‘Third generation and emerging solar cell technologies’, Leading Chair, Symposium B, MRS Spring, 2011
- ‘Surface plasmonics and the emerging applications’, Symposium Organizer for PIERS2011, Marrakesh, 2011
- ‘Metamaterials and their applications’, Symposium Organizer for PIERS2011, Marrakesh, 2011
- ‘Metamaterial, Properties, and Applications’ Symposium Organizer for PIERS 2010, Xi’an, P. R. China
- Co-Chair International Symposium on Integrated Ferroelectrics (ISIF 2008) (Photonics and nanomaterials)
- Organizer of AFRL’s symposium on advanced materials research, AFRL@WPB, 2007
- Session Chair for MS&T 07 in Detroit, 2007 (Thin film materials)
- Symposium Organizer and Section Chair for PIERS 2007, Beijing, P. R. China (Multi-ferroic and FE film and superlattice materials)
- Section Organizer of the ChinaNano 2007, Beijing, June 2007 (Photonics)
- Symposium Committee Member for SPIE Optics East 2006, Boston (THz Physics, Devices and Systems)
- Symposium Organizer and Section Chair for MRS Spring 2006 (Negative index material)
- Topical Program Committee member for International Symposium on Integrated Ferroelectrics (ISIF 2005, Shanghai, April 2005) (Ferroelectric materials)
- Session Organizer of the ChinaNano 2005, Beijing, June 2005 (Nanoelectronics)
- Organizer of AFRL’s symposium on advanced materials research, AFRL@WPB, 2005
- Key member of the Colorado State Nanotechnology Initiative, 2004
- Congratulation Letter for energy material research from the Massachusetts Senator John Kerry, 2003

### AWARDS

---

- Nominated for 2012 ‘Eni Award’
- Certificate of Recognition to Undergraduate Education and Research awarded by USAFA, 2010
- Certificate of Recognition to Undergraduate Education and Research awarded by USAFA, 2009
- ‘Qian Ren Ji Hua’, 2008, P. R. China
- Oversea Zhiming Scholar, CAS, P. R. China, 2008
- Certificate from Jiangsu Province, P. R. China, 2007
- Outstanding Contribution Award, Nanjing University, P. R. China, 2007
- Recipient of The First-Class Chinese Natural Science Award, 2006
- Nomination for the Air Force Research Award, 2006
- Certificate of Recognition to Undergraduate Education and Research awarded by USAFA, 2004
- Science News of the Week, *Science*, vol. 276, 1997
- Certificate awarded by the Chinese 863 High-Tech Advanced Materials Committee, 1995
- Excellence of Young Scientists by the Chinese Science and Technology Association, 1994
- KeLi Fellowship, P. R. China, 1994

### AWARDED RESEARCH PROGRAMS

---

#### Current Projects (PI for all):

[REDACTED] ‘Single atom detection’ \$1,840,000

|                          |            |           |                                    |             |
|--------------------------|------------|-----------|------------------------------------|-------------|
| <input type="checkbox"/> | ██████████ | 2007-2016 | 'Tunable Plasmonics Nanomaterials' | \$2,160,000 |
| <input type="checkbox"/> | ██████████ | 2006-2015 | 'New THz Materials and Components' | \$900,000   |
| <input type="checkbox"/> | ██████████ | 2006-2015 | 'Negative Index Materials'         | \$950,000   |
| <input type="checkbox"/> | ██████████ | 2007-2012 | 'Optical superlens'                | \$850,000   |

**Past Awarded Projects (PI or specially indicated)**

|                          |                            |           |                           |              |
|--------------------------|----------------------------|-----------|---------------------------|--------------|
| <input type="checkbox"/> | ██████████                 | 2007-2008 | 'Superlattice NIMs'       | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2007-2008 | 'Nano-energy materials'   | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2007-2008 | 'plasmonic research'      | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2007-2008 | 'HT sensing materials'    | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2002-2006 | 'Nonlinear optical fiber' | \$600,000    |
| <input type="checkbox"/> | ██████████                 | 2004-2006 | 'Infrared diode laser'    | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2004-2005 | 'TE nanomaterials'        | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2003-2004 | 'Raman Lasers'            | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2003-2006 | 'Nano for imaging'        | \$850,000    |
| <input type="checkbox"/> | ██████████                 | 2003-2004 | 'Combinatorial strategy'  | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2002-2004 | '2D Photonic crystals'    | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 2002-2003 | 'NLO crystals,            | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 1997-2001 | 'Ultra-fast EO shutters'  | \$850,000    |
| <input type="checkbox"/> | ██████████                 | 1996-1999 | 'Novel scintillator'      | \$850,000    |
| <input type="checkbox"/> | ██████████                 | 1999-2000 | 'Complex EO ceramics'     | \$100,000    |
| <input type="checkbox"/> | ██████████                 | 1997-1998 | 'Ferroelectric relaxor'   | \$70,000     |
| <input type="checkbox"/> | ██████████                 | 1996-1999 | 'Electro-optic devices'   | \$360,000    |
| <input type="checkbox"/> | Chinese 85 863 Key Project | 1990-1995 | 'NLO devices'             | CNY1,500,000 |
| <input type="checkbox"/> | Chinese 75 863 Key Project |           |                           |              |
| <input type="checkbox"/> | Co-PI                      | 1988-1990 | 'Optical superlattices'   | CNY800,000   |

**Managed Industrial R&D Projects (at Thermo Electron)**

|                          |   |           |           |
|--------------------------|---|-----------|-----------|
| <input type="checkbox"/> | Photonics Center, UA Tucson (by Thermo Electron),                                 | 2001-2003 | \$550,000 |
| <input type="checkbox"/> | NanoCenter, NYU Albany (by Thermo Electron),                                      | 2001-2003 | \$950,000 |
| <input type="checkbox"/> | Simon Fraser University, Canada (by Thermo Electron),                             | 2001-2003 | \$250,000 |
| <input type="checkbox"/> | Many internal R&D projects in both Thermo and Corning (multiple millions dollars) |           |           |

**Other Business Operations**

|                          |  |             |
|--------------------------|--|-------------|
| <input type="checkbox"/> | Secured a VC for MicroDomain Corp. from KLM Venture, 2000-2001                           | \$3,000,000 |
| <input type="checkbox"/> | Among the leading team of Thermo Electron s'acquisition of Spectra-Physics Corp. in 2002 |             |

**PATENTS AND NONDISCLOSURES**

1. 'Growth of self-frequency-doubling optical superlattice LN, LT and related devices' (Chinese Patent 95 1 12708.x), Yalin Lu, Yanqing Lu, Chenchen Xue, and Nai-ben Ming
2. 'Fabrication of rare-earth ions doped optical superlattice LN, LT and their applications' (Chinese Patent 97 1 07133.0), Yanqing Lu, Yalin Lu, Jianjun Zheng, and Naiben Ming
3. 'Novel approach to fabricate optical grating on UV absorptive materials' (Chinese Patent 96116970.2), Guipeng Lu, SN Zhu, Yalin Lu, Naiben Ming.
4. 'Electro-optic ceramic material and device' [US Patent 6890874, 501134000 (USPTO), C04B035/499 (Intl Class)], Kevin Li, Yalin Lu, and Qinwu Wang
5. 'Analytical scanning evanescent microwave microscope and control stage', US Patent 7550963, XD Xiang, Chen Gao, Duewer Fred, Haitao Yang, Yalin Lu (06/30/2009).
6. 'Tunable plasmonic devices via tunable dielectrics', US Patent Nondisclosure, 2010, Yalin Lu
7. 'Deformable tunable plasmonic photonic devices', US Patent Nondisclosure, 2011, Yalin Lu
8. 'Tunable plasmonics as high temperature sensors', US Patent Nondisclosure, 2011, Yalin Lu

9. 'New magnetoelectric material', Chinese Patent application, Xiaobing Chen and [Yalin Lu](#)
10. 'Embedded nanograting Si thin film solar cell' US Patent Nondisclosure, 2010, [Yalin Lu](#)
11. 'A way to fabricate Embedded nanograting Si thin film solar cell' US Patent Nondisclosure, 2010, [Yalin Lu](#)
12. 'A full through nanograting CIGS thin film solar cell' US Patent Nondisclosure, 2011, [Yalin Lu](#)
13. 'A hybrid solar cell using intermediate metallic electrode' US Patent Nondisclosure, 2011, [Yalin Lu](#)
14. 'Broadband IR switch using embedded nanograting in V<sub>2</sub>O<sub>5</sub>' US Patent Nondisclosure, 2011, [Yalin Lu](#)
15. 'Upconversion enhanced Si thin film solar cells' US Patent Nondisclosure, 2011, [Yalin Lu](#)
16. 'Thermal activated energy-saving window using V<sub>2</sub>O<sub>5</sub> coating' US Patent Nondisclosure, 2011, [Yalin Lu](#)

## BOOKS AND CHAPTERS

---

1. 'Metamaterials, Plasmonics, and THz Frequency Photonic Components', Hindawi Publishing Corp. ISBN: 9774540328, May, 2008, Corresponding Editor
2. 'Progress in Domain-Engineered Photonic Materials', Hindawi Publishing Corp. 2008, Corresponding Editor
3. 'Modulators for Optical Communications: Science, Technology, and Applications', Edited by Antao Chen and Edmond Murphy. Chapter 13, CRC Press, ISBN: 978-1-4398-2506-8, 2012
4. 'Third Generation and Emerging Solar-Cell Technologies', Edited by Yalin Lu, M. T. Lusk, J. M. Merrill, S. Bailey, and A. Franceschetti, Cambridge University Press, ISBN 978-1-60511-299-2, 2012

## PUBLICATIONS

---

### Highlights (selected):

- "Nondestructive imaging of periodic dielectric constant profile and ferroelectric domain using a scanning tip microwave near-field microscope", [Yalin Lu](#), W. Duewer, N. B. Ming, P. G. Schultz, X. D. Xiang, Science, 276, 2004(1997) [**invention of nonlinear STMNFM**]
- 'SHG of blue light in LiNbO<sub>3</sub> crystal with periodic ferroelectric domain structures', [Yalin Lu](#), L. Mao, and N. B. Ming, Appl. Phys. Lett., 59, (1991)516 [**pioneering research in PP Materials, which leads to the top Chinese Awarding**]
- 'Upconversion of 1.064um Nd:YAG laser pulses into visible light in erbium doped phosphate fibers', [Yalin Lu](#), Y. Q. Lu, H. Fang, C. C. Xue and N. B. Ming, Opt. Commun., 115, (1995)110 [**The first phosphate glass fiber for unconversion, which leads to many products in NP Photonics Inc.**]
- 'Spectral properties and quasi-phase-matched second-harmonic generation in a new active medium: optical superlattice Nd:MgO:LiNbO<sub>3</sub>', Y. Q. Lu, J. J. Zheng, [Yalin Lu](#), N. B. Ming, Applied Physics B, 67, 29(1998) [**The first to propose the self-frequency doubling PP crystals**]
- 'Structural and electro-optic Properties in Lead Magnesium Niobate Titanate Thin Films', [Yalin Lu](#), B. Gaynor, C. Hsu, G. H. Jin, M. Cronin-Golomb F. Wang, P. Yip, and A. J. Drehman, Appl. Phys. Lett, 74, 3038(1999) [**It leads to the invention of a new transparent EO ceramics, which generated \$8M sales for Corning in 2000/2001**]
- 'ZnO nanorod arrays as p-n heterojunction ultraviolet photodetectors', [Yalin Lu](#), I. A. Dajani, and R. J. Knize, Electronics Letters, 42, 1309(2006) [**The first multifunctional photodetector simultaneously detects power, energy, and polarization without using any external components**]
- 'Modified Laser Ablation Process for Nanostructured Thermoelectric Nanomaterial Fabrication', [Yalin Lu](#) and R. J. Knize, Applied Surface Science, (2007), doi:10.1016/j.apsusc.2007.06.040 [**New approach to largely enhance the TE FOM**]
- 'Optical limiting in lead magnesium niobate-lead titanate multilayers', Appl. Phys. Lett., 92, 121109 (2008) [**New approach to make low threshold optical limiters**]
- 'Broadband Light Absorption Enhancement in Thin-Film Silicon Solar Cells', Nano Letters, 10, 2012 (2010) [**A breakthrough in improving thin film solar cells, nominated for 2012 Eni Award by the award searching committee**]

### Peer-reviewed past publications:

## 2011

1. 'Nanostructured Metal Film with Extraordinary Optical Transmission as Intermediate Electrode in Novel Tandem Solar Cells', S. M. Wu, W. Wang, K. Reinhardt, R. J. Knize, S. C. Chen, and Yalin Lu \*, submitted to Nano Letters, 2011
2. 'Extraordinary large photo-thermal effect in topological insulator quintuple Bi<sub>2</sub>Te<sub>3</sub> coatings', Q. Yang, S. H. Yu, and Yalin Lu \*, submitted to Science, 2011
3. 'Metallic nanograting embedded V<sub>2</sub>O<sub>5</sub> film as the thermal activated window', X. R. Zhang, W. Wang, and Yalin Lu \*, submitted to Opt. Express, 2012
4. 'Characterization of Bi<sub>6</sub>FeMTi<sub>3</sub>O<sub>18</sub> (M = Mn, Fe, Co, and Ni) Aurivillius phase ceramics', Xiangyu Mao, Wenlu Yang, Hui Sun, Wei Wang, Xiaobing Chen, and Yalin Lu, submitted to J. Appl. Phys., 2011
5. 'Calcium doped Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub> as a new cathode material for intermediate temperature solid oxide fuel cells' Wei Zhong, Yihan Ling, Yuanyuan Rao, Ranran Peng, Yalin Lu, submitted to J. Power Source, 2012
6. 'Cobalt-Doped BaZrO<sub>3</sub>: A Single-Phase Air Electrode Material for Reversible Solid Oxide Cells', Yuanyuan Rao, Fei He, Shenghong Zhong, Ranran Peng, Changrong Xia, and Yalin Lu, submitted to Advanced Energy Materials
7. 'Temperature-agile and structure-tunable optical properties of VO<sub>2</sub>/Ag thin films', X. R. Zhang, W. Wang, Y. Zhao, X. Hu, K. Reinhardt, R. J. Knize, and Yalin Lu, Appl. Phys. A, to be published, 2012
8. 'Novel Ni-Ba<sub>1+x</sub>Zr<sub>0.3</sub>Ce<sub>0.5</sub>Y<sub>0.2</sub>O<sub>3-δ</sub> hydrogen electrodes as effective reduction barrier for reversible solid oxide cells based on doped ceria electrolyte thin film' Yuanyuan Rao, Zhiqian Wang, Wei Zhong, Ranran Peng, and Yalin Lu' J. Power Source, 199, 142 (2012)
9. 'Influence of different synthesizing steps on the multiferroic properties of Bi<sub>5</sub>Fe<sub>1</sub>Ti<sub>3</sub>O<sub>15</sub> and Bi<sub>5</sub>Fe<sub>0.5</sub>Co<sub>0.5</sub>Ti<sub>3</sub>O<sub>15</sub> ceramics' X. Y. Mao, W. Wang, H. Sun, Yalin Lu, X. B. Chen, J. Mater. Research, 47, 2960 (2012)
10. 'Effects of Co-substitutes on multiferroic properties of Bi<sub>5</sub>FeTi<sub>3</sub>O<sub>15</sub> ceramics', X. Y. Mao, H. Sun, W. Wang, Yalin Lu, X. B. Chen, Solid State Communications, 152, 483 (2012)
11. 'Enhanced photon absorption and carrier generation in nanowire solar cells', W. Wang, S. M. Wu, R. J. Knize, K. Reinhardt, Yalin Lu, and S. C. Chen, Optics Express, 20, 3733 (2012)
12. 'Enhanced Absorption in Si Solar Cells via Adding Thin Surface Plasmonic Layers and Surface Microstructures', Yalin Lu, \* W.J. Mandeville, M.K. Shaffer, R.J. Knize, and Kitt Reinhardt, PIERS Online, 7, 331 (2011)
13. 'Enhanced Ferromagnetic and Ferroelectric Properties of La Doped Multiferroic Bi<sub>5</sub>Fe<sub>0.5</sub>Co<sub>0.5</sub>Ti<sub>3</sub>O<sub>15</sub> Ceramics', Xiang-Yu Mao, Wei Wang, Xiao-Bing Chen, and Yalin Lu, PIERS Proceedings, 37 - 40, March 20-23, Marrakesh, MOROCCO 2011
14. 'Layer-structured Bi<sub>5</sub>F<sub>0.5</sub>Co<sub>0.5</sub>Ti<sub>3</sub>O<sub>15</sub> thin films grown by pulsed laser deposition', Yalin Lu \*, Gail Brown, Gregory Kozlowski, and Xiaobing Chen, PIERS Online, 7, 105 (2011)
15. 'Microstructured silicon created with a nanosecond neodymium-doped yttrium aluminum garnet laser', W.J. Mandeville, M.K. Shaffer, D. O'Keefe, Yalin Lu, and R.J. Knize, Appl. Phys. A, 104, 755 (2011)
16. 'Tunable Transmission and Enhanced Emission in Ordered Metallic Nanostructures Having Varying Channel Shape', Yalin Lu, Applied Physics A, 103, 597 (2011)
17. 'Enhancing near-infrared solar cell response using upconverting transparent ceramics', M. Liu, Yalin Lu, Z. B. Xie, G. M. Chow, Solar Energy Materials and Solar Cells, 95, 800 (2011)

## 2010

18. 'Performance comparison of nonlinear crystals for frequency doubling of an 894nm Cs vapor laser', B.V. Zhdanov, M. K. Shaffer, Yalin Lu, B. Naumann, T. Genda, and R.J. Knize, Proc. SPIE 7846, 78460B (2010); doi:10.1117/12.871808
19. 'Manipulation of absorption in Si thin films with ordered nanostructures', Yalin Lu and Kitt Reinhardt, Physica Status Solidi (c), 8, 839 (2011) (Also as a Back Cover)
20. 'Adding a thin metallic layer to silicon thin film solar cells', Yalin Lu, j. F. Sell, M. D. Johnson, K. Reinhardt and R. J. Knize, Physica Status Solidi (c), 8, 843 (2011)
21. 'Absorption enhancement in thin-film silicon solar cells by two-dimensional periodic nanopatterns', Shaomin Wu, Kitt Reinhardt, Yalin Lu and Shaochen Chen, J. Nanophotonics, 4, 043515(2010)
22. 'Tuning the extraordinary transmission in a metallic/dielectric CDC hole array by changing the temperature', Wei Wang, Yalin Lu, R. J. Knize, Kitt Reinhardt, and Shaochen Chen, Optics Express, 18, 15553 (2010)
23. 'Broadband Light Absorption Enhancement in Thin-Film Silicon Solar Cells', W. Wang, S. M. Wu, K. Reinhardt, Yalin Lu and S. C. Chen, Nano Letters, 10, 2012 (2010)

24. 'Realization of Negative Refraction via Overlapping Ferroelectric and Ferromagnetic Oxides', Yalin Lu and R. J. Knize, PIRS Online, 6, 201 (2010)
25. 'a-b Plane Dielectric Discussion on Layered Multiferroic Oxides', Yalin LU and R. J. Knize, PIRS Online, 6, 232 (2010)
26. 'Plasmon-Enhanced Luminescence Useful for Wavelength Shifting in Solar Cells', L. Li, W. X. Lu, and Yalin Lu, Materials Science Forum, V 636-637, 860 (2010)
27. 'Combinatorial Study of New Materials Sensing High Temperature', Yalin Lu and Reinhardt Kitt, Materials Science Forum, V 636-637, 295 (2010)
28. 'Absorption Enhancement of Solar Cells via New Surface Photonic Designs', Yalin Lu, L. Li, and Reinhardt Kitt, Materials Science Forum V. 636-637, 855 (2010)
29. 'Ytterbium/yttrium oxide superlattices sensing strain under high temperature', Yalin Lu and Reinhardt Kitt, Materials Science Forum, V 636-637, 301 (2010)

#### 2009

30. 'Negative Refraction Oxide Superlattices', Yalin Lu, G. J. Brown and K. Reinhardt, Integrated Ferroelectrics, 110, 123 (2009)
31. 'Nonlinear Refraction and Nonlinear Scattering in Highly Oriented Lead Magnesium Niobate-Lead Titanate Multilayers', Yalin Lu, K. Reinhardt and G. J. Brown, Integrated Ferroelectrics, 110, 115 (2009)
32. 'Multiferroic Properties of Layer-Structured  $\text{Bi}_5\text{Fe}_{0.5}\text{Co}_{0.5}\text{Ti}_3\text{O}_{15}$  Ceramics', X. Y. Mao, W. Wang, X. B. Chen and Yalin Lu, Appl Phys Lett. 95, 082901 (2009)
33. 'Plasmon-Enhanced Luminescence in  $\text{Yb}^{3+}:\text{Y}_2\text{O}_3$  Thin Film and the Potential for Solar Cell Photon Harvesting', Yalin Lu and Xiaobing Chen, Appl. Phys. Lett. 94, 193110 (2009)
34. 'Tunable and polarization-selective THz range transmission properties of metallic rectangular array with a varying hole channel shape', Wei Wang, Yalin Lu, R. J. Knize, Kitt Reinhardt, and Shaochen Chen, Optics Express 19, 7361 (2009)
35. 'Structural Combinatorial Strategy for Advanced Nanotechnology Researches', Yalin Lu and R. J. Knize, J. Nanoscience and Nanotechnology, 9, 1190 (2009)
36. 'Analytical and Experimental Investigation of Electromagnetic Field Enhancement among Nanospheres with Varying Spacing', Li-Hsin Han, Wei Wang, Yalin Lu, R. J. Knize, Kitt Reinhardt, John Howell and Shaochen Chen, J. Heat Transfer, 131, 033110-1 (2009).

#### 2008

37. 'Optical intensity modulation in a  $\text{LiNbO}_3$  slab-coupled waveguide', Yalin Lu and K. Reinhardt, Advances in Optoelectronics, Vol. 2008, ID 373259
38. 'Progress in Domain Engineered Photonic Materials', Yalin Lu, Changqing Xu, Hiroshi Murata, Advances in OptoElectronics, Vol. 2008, ID 467145
39. 'Frequency-doubling of a high power cesium vapor laser using a PPKTP crystal', B. V. Zhdanov, Yalin Lu,\* M. K. Shaffer, W. Miller, D. Wright, and R. J. Knize, Optics Express, 16, 17585 (2008)
40. 'Exploration of dielectric superlattices', N. B. Min, Y.Y. Zhu, S.N. Zhu, Yalin Lu, Y.Q. Lu, Y. F. Chen, Z. L. Wang, H. T. Wang, J. L. He, Physics (物理), v.1, 1 (2008)
41. 'Domain-reversed lithium niobate fiber potential for efficient terahertz wave generation', Yalin Lu and K. Reinhardt, Advances in OptoElectronics, Vol. 2008, ID 208458.
42. 'Negative refraction using frequency-tuned oxide multilayer structure', Yalin Lu, K. Reinhardt, G. J. Brown, Advances in OptoElectronics, Vol. 2008, ID 948614.
43. 'Combinatorial screening of high Kerr rotation material in  $\text{BiDyYb}$  iron garnet system', X. F. Li, C. Gao, and Yalin Lu, IEEE Transactions on Magnetics, 44, 2091 (2008).
44. 'Bandwidth Engineering for Efficient Frequency Doubling of High Power Fiber Lasers Using Periodically Poled KTP Crystals—II', Yalin Lu, F. J. Kontur, I. A. Dajani, and R. J. Knize, Integrated Ferroelectrics, 98, 241 (2008)
45. 'Quantitative measurement of piezoelectric coefficient of thin film using a scanning evanescent microwave microscope', Z. L. Zhao, Z. L. Luo, C. H. Liu, W. B. Wu, C. Gao, and Yalin Lu, Rev. Sci. Instru. **79**, 064704 (2008)
46. 'Optical limiting in lead magnesium niobate-lead titanate multilayers', Yalin Lu and Chen Gao, Appl. Phys. Lett. 92, 121109 (2008)
47. 'Terahertz Frequency Range Dielectric Tunability of  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3$  Hetero-Phase Superlattices', Yalin Lu, R. J. Knize, K. Reinhardt, and G. J. Brown, Integrated Ferroelectrics, 97, 3 (2008).

48. 'Novel Slab-Coupled LiNbO<sub>3</sub> Waveguide for Nonlinear Optical Applications', Yalin Lu and R. J. Knize, *Integrated Ferroelectrics*, 98, 147 (2008).

#### 2007

49. 'Metamaterials, plasmonics, and THz frequency photonic components', Yalin Lu, Weili Zhang, and Min Qiu, *Active and Passive Electronic Components*, Vol. 2007, ID 80839
50. 'Tunable transmission at 100 THz through a metallic hole array with a varying hole channel shape', A. Battula, S. S. Chen and Yalin Lu, *Optics Express*, 15, 14629 (2007)
51. 'Enhanced Transmission and Emission in Plasmonic Nanophotonics', A. Battula, S. S. Chen and Yalin Lu, A review article, 'Active and Passive Electronic Components', Volume 2007, Article ID 24084 (2007)
52. 'Tuning the extraordinary optical transmission through subwavelength hole array by applying a magnetic field', S. S. Chen and Yalin Lu, *Optics Letters*, 32, 2692 (2007)
53. 'Frequency-doubling of a CW fiber laser using PPKTP, PPMgSLT, and PPMgLN', F. Kontur, Yalin Lu, and R. J. Knize, *Optics Express*, 15, 12882 (2007)
54. 'The Structural Engineering Strategy for Photonic Material Research and Device Development', Yalin Lu, a review article, 'Active and Passive Electronic Components', Volume 2007, Article ID 17692 (2007)
55. 'Bandwidth Engineering for Efficient Frequency Doubling of High Power Fiber Lasers Using Periodically Poled KTP Crystals—I', Yalin Lu, F. J. Kontur, I. A. Dajani, and R. J. Knize, *Integrated Ferroelectrics*, 95, 158 (2007)
56. 'Modified Laser Ablation Process for Nanostructured Thermoelectric Nanomaterial Fabrication', Yalin Lu and R. J. Knize, *Applied Surface Science*, 254, 1211 (2007)
57. 'PLD-Assisted Fabrication of Novel Slab-Coupled Lithium Niobate Optical Waveguide', Yalin Lu and R. J. Knize, *Applied Surface Science*, 254, 1079 (2007)
58. 'Ultrafast Laser Assisted Fabrication of ZnO Nanorod Arrays for Photon Detection Applications', Yalin Lu, I. A. Dajani, and R. J. Knize, *Applied Surface Science*, 253, 7851 (2007)
59. 'New p-n Junction Photodetector Using Optimized ZnO Nanorod Array', Yalin Lu, Iyad A. Dajani, W. J. Mandeville, R. J. Knize and S. S. Mao, *Solid State Phenomena*, 121-123, 809(2007)
60. 'Strongly coupled electro-optic superlattices and the potential as metamaterials', Yalin Lu, I. A. Dajani, and R. J. Knize, *PIERS Online*, 3(2), 170 (2007)
61. 'Comparison of Frequency-doubling using PPKTP, PPMgSLT, and PPMgLN', F. Kontur, Yalin Lu, and R. J. Knize, *Prof. of NLO*, WE 28, 2007
62. 'Fabrication and characterization of periodically poled lithium niobate single crystal fibers', Yalin Lu, I. A. Dajani, W. J. Mandeville, and R. J. Knize, *Integrated Ferroelectrics*, 90, 53 (2007)

#### 2006

63. 'ZnO nanorod arrays as p-n heterojunction ultraviolet photodetectors', Yalin Lu, I. A. Dajani, and R. J. Knize, *Electronics Letters*, 42, 1309(2006)
64. 'Electro-Optic Effect in Relaxor Ferroelectric Films and Superlattices', Yalin Lu, W. J. Mandeville and R. J. Knize, *Integrated Ferroelectrics*, 80, 29(2006)

#### 2004~2005

65. 'Dielectric and Ferroelectric Behaviors in Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub>-PbTiO<sub>3</sub> Rhombohedral/Tetragonal heterostructure Superlattices', Yalin Lu, *Appl. Phys. Lett.* 85 (6), 979 (2004)
66. 'Second-harmonic generation in periodically poled lithium niobate single-crystal fibers', Yalin Lu, I. A. Dajani, and R. J. Knize, *Elect. Lett.* 40(13), 795(2004)
67. 'Enhanced dielectric and electro-optic effects in relaxor oxide heterostructured superlattices', Yalin Lu and R. J. Knize, *J. Phys. D* 37 (17), 2432 (2004)
68. 'Investigation of bandwidths in frequency conversion of high power optical fiber lasers', Yalin Lu, J. R. Chang, Iyad A. Dajani, and Randy Knize, *Proc. of NLO WD23*, 2004
69. 'Periodically poled lithium niobate single crystal fibers for nonlinear frequency conversion applications', Yalin Lu, Iyad A. Dajani, and Randy, Knize, *Proc. of NLO ThC7*, 2004

#### 2000~2004 (My industrial career)

#### 1988~2000

70. 'PLZT film waveguide Mach-Zehnder electrooptic modulator', G. H. Jin, Yalin Lu, J. Zhao, and M. Cronin-Golomb, *J. Lightwave Technology*, V18 (6), 807 (2000)
71. 'Electro-optic measurements of the ferroelectric-paraelectric boundary in  $Ba_{1-x}Sr_xTiO_3$  material chips', Jingwei Li, F. Duewer, Chen Gao, Hauyee Chang, X. D. Xiang, Yalin Lu, *Appl. Phys. Lett.*, 76, 769(2000)
72. 'Photoluminescence in erbium-doped PMN-PT thin film', J. J. Zheng, Yalin Lu, X. S. Chen, M. Cronin Golomb, and J. Zhao, *Appl. Phys. Lett.*, 75, 3470(1999)
73. 'In-plane electro-optical anisotropy of (1-x)PMN-xPT thin films grown on (100)-cut  $LaAlO_3$ ', Yalin Lu, J. J. Zheng, M. Cronin-Golomb, F. L. Wang, H. Jiang, Jing, Zhao, *Appl. Phys. Lett.*, 74, 3764(1999)
74. 'Structural and electro-optic Properties in Lead Magnesium Niobate Titanate Thin Films', Yalin Lu, B. Gaynor, C. Hsu, G. H. Jin, M. Cronin-Golomb F. Wang, P. Yip, and A. J. Drehman, *Appl. Phys. Lett.*, 74, 3038(1999)
75. 'Degenerate four-wave mixing in PLZT poly-crystalline film fabricated by MOCLD', G.H. Jin, B. Nemet, Yalin Lu, C. Hsu, J. Zhao, and M. Cronin-Golomb, *Appl. Phys. Lett.*, 74, 3116(1999)
76. 'Fabrication of three dimensional waveguides in thick PLZT films', G. H. Jin, W. Liu, Yalin Lu, and M. Cronin Golomb, *Microwave and Optical Technology Letters*, 20, 121(1999)
77. 'Frequency tuning of OPG in periodically poled optical superlattice  $LiNbO_3$  by electro-optic effect', Yan-qing Lu, Jian-jun Zheng, Yalin Lu, and Naiben Ming, *Appl. Phys. Lett.*, 74, 123(1999)
78. 'Fabrication and Optical Characterization of  $Pb(Mg_{1/3}Nb_{2/3})O_3$ - $PbTiO_3$  Planar Thin Film Optical Waveguides', Yalin Lu, Wayne Liu, J. Zhao, and M. Cronin Golomb, *Appl. Phys. Lett.*, 72, 2927 (1998)
79. 'Quantitative nonlinear dielectric microscope of periodically ordered ferroelectric domains', Chen Gao, F. Duewer, Yalin Lu, and X. D. Xiang, *Appl. Phys. Lett.*, 72, 1146 (1998)
80. 'Visible dual-wavelength light generation in optical superlattice  $Er:LiNbO_3$  through upconversion and QPM frequency doubling', J. J. Zheng, Y. Q. Lu, G. P. Luo, J. Ma, and Yalin Lu, *Appl. Phys. Lett.*, 72, 1808 (1998)
81. 'Reversed ridge, large profile and single mode PLZT waveguide and its Mach-Zehnder EO modulator', G. H. Jin, Yalin Lu, J. Zhao and M. Cronin-Golomb, *Laser and Electro-Optic Science*, 79 (1998)
82. 'Spectral properties and quasi-phase-matched second-harmonic generation in a new active medium: optical superlattice  $Nd:MgO:LiNbO_3$ ', Y. Q. Lu, J. J. Zheng, Yalin Lu, N. B. Ming, *Applied Physics B*, 67, 29(1998)
83. 'Frequency tuning of optical parametric oscillator based on periodically poled optical superlattice  $LiNbO_3$  by electro-optic effect' Yan-Qing Lu, Jian-Jun Zheng, Ya-Lin Lu, Nai-Ben Ming, *Lasers and Electro-Optics*, 140 (1998)
84. 'Applications of a scanning near-field microwave microscope to the observation of ferroelectric domains', Duewer, Fred; Lu, Yalin; Gao, Chen; Xiang, X.-D. *American Physics Society/AMM*, #W26.05 (1998)
85. 'Nondestructive imaging of periodic dielectric constant profile and ferroelectric domain using a scanning tip microwave near-field microscope', Yalin Lu, F. Duewer, N. B. Ming, P. G. Schultz, X. D. Xiang, *Science*, 276, 2004(1997)
86. 'High spatial resolution quantitative impedance microscopy by a scanning tip microwave near-field microscope', Chen Gao, T. Wei, W. Duewer, Yalin Lu, and X. D. Xiang, *Appl. Phys. Lett.*, 71, 1872(1997)
87. 'Nondestructive Imaging of Periodic Structures of Dielectric Constant and Ferroelectric Domains by a Scanning Tip Microwave Near-field Microscope', Yalin Lu, T. Wei, P. G. Schultz, and X. D. Xiang, *American Physics Society/AMM*, #B20.08 (1997)
88. 'A change of domain morphology in optical superlattice  $LiNbO_3$  by thermal annealing', Y. Q. Lu, Yalin Lu, Q. Luo, Y. Y. Zhu, X. F. Chen, C. C. Xue, and N. B. Ming, *J. Phys.: Condens. Matter.*, 9, 747(1997)
89. 'Fluorescence and attenuation properties of  $Er^{3+}$ -doped phosphate-glass fibers and efficient infrared-to-visible up-conversion', Yalin Lu, Y. Q. Lu, and N. B. Ming, *Appl. Phys. B.*, 62, 287 (1996)
90. 'Growth of  $Nd^{3+}$ -doped  $LiNbO_3$  optical superlattice crystals and its potential applications in self-frequency-doubling', Yalin Lu, Y. Q. Lu, X. F. Chen, and N. B. Ming, *Appl. Phys. Lett.*, 68, 1467 (1996)
91. 'Formation mechanism for ferroelectric domain structures in a  $LiNbO_3$  optical superlattice', Yalin Lu, Y. Q. Lu, C. C. Xue, and N. B. Ming, *Appl. Phys. Lett.*, 68, 2642 (1996)
92. 'Growth of optical superlattice  $LiNbO_3$  with different modulating periods and its applications in second-harmonic generation', Yalin Lu, Y. Q. Lu, X. F. Chen, C. C. Xue, and N. B. Ming, *Appl. Phys. Lett.*, 68, 2781 (1996)
93. 'Efficient CW blue light generation in optical superlattice  $LiNbO_3$  by direct frequency doubling a 978nm InGaAs diode laser', Yalin Lu, Y. Q. Lu, C. C. Xue, and N. B. Ming, *Appl. Phys. Lett.*, 69, 1660 (1996)
94. 'Frequency doubling a CW diode laser to generate 489nm blue light in optical superlattice  $LiNbO_3$ ', Y. Q. Lu, Yalin Lu, G. P. Luo, X. F. Chen, and N. B. Ming, *Electronics Letters.*, 32, 336 (1996)
95. 'Femtosecond violet light generation by quasi-phase-matched frequency doubling in optical superlattice  $LiNbO_3$ ', Y. Q. Lu, Yalin Lu, C. C. Xue, J. J. Zhen, and N. B. Ming, *Appl. Phys. Lett.*, 69, (1996) 3155

96. 'Fabrication of LiNbO<sub>3</sub> phase gratings by excimer laser ablation through a silica phase mask', G. P. Luo, Y. Q. Lu, Y. Y. Zhu, Yalin Lu, X. L. Guo, C. Z. Ge, Z. G. Liu, N. B. Ming, J. W. Wu, and Z. H. Lu., Jan. J. Appl. Phys., 35, L1593(1996)
97. 'Fabrication of LiTaO<sub>3</sub> periodic surface structures by a single excimer laser pulse through an optical phase grating', G. P. Luo, Yalin Lu, N. B. Ming, SPIE, 2888, 214(1996)
98. 'LiNbO<sub>3</sub> phase gratings prepared by a single excimer pulse through a silica phase mask', G. P. Luo, Yalin Lu, N. B. Ming, and Z. H. Lu, Appl. Phys. Lett., 69, 1352(1996)
99. 'Optical bistability in incident-dependent two-dimensional nonlinear optical superlattice', X. F. Chen, Yalin Lu, Y. Q. Lu, N. B. Ming, Chinese Phys. Lett., (in English) 13, 913(1996)
100. 'Violet and blue light generation in optical superlattice LiNbO<sub>3</sub>', Yalin Lu, Y. Q. Lu, X. F. Chen, G. P. Luo, J. J. Zhen, and N. B. Ming, SPIE, 2897, 357(1996)
101. 'Optical limiting in a two-dimensional optical superlattice structure', X. F. Chen, Yalin Lu, Y. Q. Lu, C. C. Xue, G. P. Luo, and N. B. Ming, SPIE, 2897, 146(1996)
102. 'Growth of a new SFD medium: OSL Nd:MgO:LiNbO<sub>3</sub> and its optical properties', Y. Q. Lu, Yalin Lu, G. P. Luo, J. J. Zheng, and N. B. Ming, SPIE, 2897, 152 (1996)
103. 'Bistable behavior in the phase-output relation in 2D nonlinear optical superlattice', X. F. Chen, Yalin Lu, Y. Q. Lu, and N. B. Ming, Chinese Journal of Physics (in English), 34, 1145(1996)
104. 'Growth and transducer properties of an acoustic superlattice with its periods varying gradually', S. D. Cheng, Y. Y. Zhu, Yalin Lu, N. B. Ming, Appl. Phys. Lett., 66, (1995)291
105. 'Properties of Er<sup>3+</sup>-doped phosphate glasses and the glass fibers and efficient IR to visible upconversion', Yalin Lu and N.B.Ming, J. Mater. Sci., 30, (1995)5705
106. 'Upconversion of 1.064um Nd:YAG laser pulses into visible light in erbium doped phosphate fibers', Yalin Lu, Y. Q. Lu, H. Fang, C. C. Xue and N. B. Ming, Opt. Commun., 115, (1995)110
107. 'Optical bistability in two dimensional nonlinear optical superlattice with two incidences', X. F. Chen, Yalin Lu, and N. B. Ming, Appl. Phys. Lett., 67, (1995) 3538
108. 'Green, blue and violet light generation and direct frequency doubling of a 810 nm laser diode in optical superlattices', Ya-Lin Lu Yan-Qing Lu Nai-Ben Ming, Lasers and Electro-Optics, 87 (1995)
109. 'High efficient SHG in LiNbO<sub>3</sub> waveguide with periodically-poled ferroelectric domains', Yalin Lu and N. B. Ming, J. Nanjing University (English Version), 30, (1994)200
110. 'Green and violet light generation in LiNbO<sub>3</sub> optical SL through QPM', Yalin Lu, L. Mao, and N. B. Ming, Appl. Phys. Lett., 64, (1994)3092
111. 'Blue light generation by frequency doubling of a 810nm GaAlAs diode laser in QPM LiNbO<sub>3</sub>', Yalin Lu, L. Mao, and N. B. Ming, Opt. Lett., 19, (1994)1037
112. 'Second harmonic generation of blue light in LiNbO<sub>3</sub> crystal with periodic ferroelectric domain structures', Yalin Lu, L. Mao, and N. B. Ming, Appl. Phys. Lett., 59, (1991)516
113. 'Structural Change of soda lime glass with minor addition and heat treatment', Yalin Lu, Y. Tang, and Z. S. Ding, J. Non-Cryst. Solids, 106, (1988)391

## INVITED TALKS AND CONFERENCE PUBLICATION (for past four years only)

---

### Peer-Reviewed Conference Presentations:

111. 'Nonlinear optical response in embedded BiFeO<sub>3</sub> nanorod arrays', Yalin Lu, K. Reinhardt, Z. P. Fu, and R. J. Knize, EMRS, Strasbourg, France, 2012
112. 'A two-step synthesis of Y<sub>2</sub>O<sub>3</sub>:Yb<sup>3+</sup>, Er<sup>3+</sup> nanoslabs for upconversion luminescence', Z.W. Lei, J. Yu, M. Liu, Yalin Lu, G.M. Chow, EMRS, Strasbourg, France, 2012
113. 'Manipulation Light Absorption and Conversion in Thin Film Solar Cells with Ordered Nanostructures', W. Wang, M. Liu, K. Reinhardt, R. J. Knize and Yalin Lu, META'12, Paris, 2012
114. 'Temperature-agile and structure-tunable optical properties of VO<sub>2</sub>/Ag thin films' X. R. Zhang, W. Wang, Y. Zhao, K. Reinhardt, R. J. Knize and Yalin Lu, META'12, Paris, 2012
115. 'Manipulation optical properties in VO<sub>2</sub>/Ag thin films' Yalin Lu, K. Reinhardt and R. J. Knize, PIERS 2012, Kuala Lumpur, Malaysia
116. 'A two-step synthesis of Y<sub>2</sub>O<sub>3</sub>:Yb<sup>3+</sup>, Er<sup>3+</sup> nanoslabs for upconversion luminescence', M. Liu, J. Yu, Yalin Lu and G. M. Chow, The 1<sup>st</sup> Forum on Trends in Nano-Manufacturing, Hefei, China, 2011
117. 'Upconversion luminescence of YAG (Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>):Yb<sup>3+</sup>, Er<sup>3+</sup> nanopowders and transparent ceramics', M. Liu, Z. W. Lei, Yalin Lu and S. W. Wang, The 1<sup>st</sup> Forum on Trends in Nano-Manufacturing, Hefei, China, 2011



118. 'Preparation and upconversion luminescence of YAG: Yb<sup>3+</sup>, Ho<sup>3+</sup> nanopowders with good dispersity', M. Liu, Z. W. Lei, Yalin Lu and S. W. Wang, The 1<sup>st</sup> Forum on Trends in Nano-Manufacturing, Hefei, China, 2011
119. 'Terahertz Wave Generation Using Nonlinear Optical Approaches', Yalin Lu and Kitt Reinhardt, PIERS 2011, Suzhou, P. R. China
120. 'Long Wavelength Spectroscopic Characterization of Embedded Bismuth Ferrite Nanorod Arrays', Yalin Lu, J. F. Sell, M. D. Johnson, K. Reinhardt and R. J. Knize, PIERS 2011, Suzhou, P. R. China
121. 'Performance comparison of nonlinear crystals for frequency doubling of an 894nm Cs vapor laser', B.V. Zhdanov, M. K. Shaffer, Yalin Lu, B. Naumann, T. Genda, and R.J. Knize, Quantum and Nonlinear Optics, SPIE Asia, Beijing, Oct. 2010
122. 'Terahertz wave generation using nonlinear optical approaches', Yalin Lu, ISIF 2010, June 13-16, San Juan, Puerto Rico.
123. 'Surface Microstructures Created with a Nanosecond Laser in Silicon Solar Cells' Yalin Lu, W.J. Mandeville, M.K. Shaffer, D. O'Keefe, and R.J. Knize, ISIF 2010, June 13-16, San Juan, Puerto Rico.
124. '*a-b* Plane Dielectric Discussion on Layered Multiferroic Oxides', Yalin Lu and R. J. Knize, PIERS, Xi'an, March 22, 2010
125. 'Realization of Negative Refraction via Overlapping Ferroelectric and Ferromagnetic Oxides', Yalin Lu and R. J. Knize, PIERS, Xi'an, March 22, 2010
126. 'Tunable transmission and enhanced transmission in ordered metallic nanostructures having varying channel shape', Yalin Lu, keynote speaker, Meta10, Cairo, 02/2010.
127. 'Blue Laser Light Generation by Frequency Doubling of a Cesium Vapor Laser', Boris Zhdanov, Yalin Lu, Michael Shaffer, Woody Miller, Dallas Wright, Will Holmes, and Randall Knize, , the 17<sup>th</sup> International Conference "Advanced Laser Technologies", 28 September 2009, in Antalya, Turkey
128. 'Metamaterials and their applications', 2<sup>nd</sup> Sino-US NanoScience, Heifei, China, July 3, 2009.
129. 'Blue laser light generation by frequency doubling of a cesium vapor laser', Boris V. Zhdanov, Yalin Lu, Michael Shaffer, Woody Miller, Dallas Wright, Randall J. Knize, U.S. Air Force Academy [7354-32], SPIE EUROPE, Prague, Czech Republic, 20-23, April, 2009
130. 'Tunable dielectric behavior in PMN-PT RT superlattices', Yalin Lu, G. Brown, K. Reinhardt, IMF-ISAF 2009, Xi'an, China. August 23-26, 2009
131. 'Realization NIM via overlapping ferroelectric and ferromagnetic oxides', Yalin Lu, G. Brown, K. Reinhardt, IMF-ISAF 2009, Xi'an, China. August 23-26, 2009
132. 'High-throughput measurement of EO, MO, Dielectric and Piezoelectric coefficients', Yalin Lu, G. Brown, K. Reinhardt, IMF-ISAF 2009, Xi'an, China. August 23-26, 2009
133. 'Tunable THz Range Transmission in Metallic Hole Array with a Varying Channel Shape', Yalin Lu, Shaochen, Chen, G. Brown, K. Reinhardt, Chinanano 2009, Beijing, China. Sept. 1-3, 2009
134. 'Surface plasmon enhanced luminescence in Er and Tb doped Y2O3', Yalin Lu, G. Brown, R. J. Knize, K. Reinhardt, Chinanano 2009, Beijing, China. Sept. 1-3, 2009
135. 'Plasmon-Enhanced Luminescence and Wavelength Shifting in Solar Cells', L. Li, W. X. Lu, and Yalin Lu, Materiais2009, Lisbon, Portugal.
136. 'Combinatorial Study of New Sensing Materials for High Temperature', Yalin Lu and Reinhardt Kitt, Materiais2009, Lisbon, Portugal.
137. 'Absorption Enhancement of Solar Cells via Waveguiding and Plasmonic Resonance Considerations', Yalin Lu, L. Li, and Reinhardt Kitt, Materiais2009, Lisbon, Portugal.
138. 'Superlattices sensing both temperature and strain under high temperature', Yalin Lu and Reinhardt Kitt, Materiais2009, Lisbon, Portugal.
139. 'Relaxor ferroelectric hetrophase superlattice', Yalin Lu, 2nd International Symposium on Transparent Conductive Oxides, Greece, 2008
140. 'Nonlinear Refraction and Scattering in Lead Magnesium Niobate-Lead Titanate Superlattices', Yalin Lu, K. Reinhardt, G. J. Brown, ISIF 2008 (#346) (Singapore).
141. 'New design of a LiNbO<sub>3</sub> waveguide electro-optic modulator', Yalin Lu and Ling Li, ISIF 2008 ( # 92) (Singapore).
142. 'Negative refraction superlattices', Yalin Lu, K. Reinhardt, G. J. Brown, ISIF 2008 ( # 347) (Singapore)
143. 'Thin Film Piezoelectric Effect Determination Using a Scanning Tip Microwave Microscope' Zhenli Zhao, Chihui Liu, Wenbing Wu and Chen Gao and Yalin Lu, ISIF 2008 (#196) (Singapore)
144. 'Combinatorial study of new materials sensing high temperatures' Yalin Lu and Ling Li, ISIF 2008 (#348) (Singapore)

145. 'Optical limiting using unique grating design', the International Workshop on Strongly Correlated Electron Systems 2008 (IWSCES-2008), HeFei, China, 2008
146. 'Complex oxide optical superlattices', AFOSR Nanotechnology Initiative 2008 reviewing, Dayton, 2008
147. 'Comparison of SHG using PPKTP, PPMgSLT, and PPMgLN', NLO Conference, Hawaii, 2007
148. 'Structural Combinatorial Strategy for Advanced Nanotechnology Researches', Yalin Lu and R. J. Knize, Chinanano 2007, Beijing, P. R. China
149. 'Terahertz Frequency Range Dielectric Tunability of  $Pb(Mg_{1/3}Nb_{2/3})O_3$ - $PbTiO_3$  Hetero-Phase Superlattices', Yalin Lu and R. J. Knize, ISIF 2007, Bordeaux, France
150. 'Novel Slab-Coupled  $LiNbO_3$  Waveguide for Nonlinear Optical Applications', Yalin Lu and R. J. Knize, ISIF 2007, Bordeaux, France
151. 'Bandwidth Engineering for Efficient Frequency Doubling of High Power Fiber Lasers Using Periodically Poled KTP Crystals', Yalin Lu and R. J. Knize, ISIF 2007, Bordeaux, France
152. 'Modified Laser Ablation Process for Nanostructured Thermoelectric Nanomaterial Fabrication', Yalin Lu and R. J. Knize, EMRS 2007, Strasbourg, France, 2007
153. 'PLD-Assisted Fabrication of Novel Slab-Coupled Lithium Niobate Optical Waveguide', Yalin Lu and R. J. Knize, EMRS 2007, Strasbourg, France, 2007
154. Receiving the 'Chinese State Natural Science Award', Beijing, P. R. China, 2007
155. 'Strongly coupled electro-optic superlattices and the potential as metamaterials', Yalin Lu, I. A. Dajani, and R. J. Knize, PIERS 2007, Beijing, P. R. China
156. 'Ultrafast Laser Assisted Fabrication of ZnO Nanorod Arrays for Photon Detection Applications', Yalin Lu, D. A. Dajani, and R. J. Knize, 2006 Europe MRS, Nice, France
157. 'Fabrication and characterization of periodically poled lithium niobate single crystal fibers', Yalin Lu, D. A. Dajani, and R. J. Knize, 2006 International Symposium on Integrated Ferroelectrics (ISIF 2006), Hawaii, USA
158. 'Electro-Optic Effect in Relaxor Ferroelectric Films and Heterostructure Superlattices', Yalin Lu, W. J. Mandeville, D. A. Dajani, and R. J. Knize, 2005 International Symposium on Integrated Ferroelectrics (ISIF 2005), Shanghai, P. R. China
159. 'New Photodetector Using Optimized ZnO Nanorod Array', Yalin Lu, W. J. Mandeville, D. A. Dajani, and R. J. Knize, ChinaNano 2005, Beijing, P. R. China
160. 'Efficiently Doubling a CW Ytterbium Fiber Laser Using A PPKTP Nonlinear Crystal', Yalin Lu and D. A. Dajani, 2004 CLEO/IQEC, San Francisco, USA
161. 'Investigation of bandwidths in frequency conversion of high power optical fiber lasers', Yalin Lu, D. A. Dajani, and R. J. Knize, 2004 Nonlinear Optics Conference, WD23, Hawaii, USA
162. 'Periodically poled lithium niobate single crystal fibers for nonlinear frequency conversion applications', Yalin Lu, D. A. Dajani, and R. J. Knize, 2004 Nonlinear Optics Conference, ThC7, 2004, Hawaii, USA
163. "Applications of a scanning near-field microwave microscope to the observation of ferroelectric domains", F. W. Duewer, Yalin Lu, C. Gao, and X. D. Xiang, American Physical Society, Annual March Meeting, March 16-20, 1998 Los Angeles, CA, abstract #W26.05
164. "Nondestructive imaging of periodic structures of dielectric constant and ferroelectric domains by a scanning tip microwave near-field microscope", Yalin Lu, T. Wei, F. W. Duewer, P. G. Schultz, and X. D. Xiang, American Physical Society, Annual March Meeting, March 17-21, 1997, abstract #B20.08

#### Invited Talks:

165. 'Nanostructures for absorption enhancement', to graduate students in Qinghua University, Mar. 2011
166. 'New layer-structured Metamaterial', Tri-service Metamaterials Review, May 24-27, 2010, VA Beach, AFOSR/RSE
167. 'Tunable transmission and enhanced transmission in ordered metallic nanostructures having varying channel shape', Yalin Lu, AFRL/RX, MetaMaterial Program Symposium, 02/2010, AFRL@WPB.
168. 'Strongly coupled oxide superlattices and their optoelectronics applications', 2<sup>nd</sup> Functional Oxide Materials and Application Forum, Ningbo Institute of Materials Technology and Engineering (NIMTE), CAS, Dec. 16-20, 2009
169. 'Solar Absorption Enhancement Using Nanostructures', High Level Academic Forum for Graduate Students, USTC, China, Nov. 13, 2009
170. 'New Intrinsic Metamaterials', AFRL 6.2 Metamaterial Workshop, 6-8 October, 2009, Dayton, USA
171. 'FRAM and the potential', City government of Suzhou, China, 07/08/2009
172. 'Metamaterials, plasmonics, and frequency conversion', University of Science and Technology, China, 07/05/2009

173. 'Metamaterials and their applications', Yangzhou University, 06/18/2009
174. 'Relaxor ferroelectric heterophase superlattice', Yalin Lu, 2nd International Symposium on Transparent Conductive Oxides, Greece, 10/25/2008
175. 'New multilayered NIMs', Yalin Lu, AFOSR NIM MURI Review, Kent State University, 10/22/2008
176. 'Nanotechnologies for Energy', Yalin Lu, Seminar, Physics Department, University of California at Davis, 02/20/2008
177. 'A few interesting areas related to surface plasmonics', Yalin Lu, Seminar, University of California at Davis, 12/06/2007
178. 'A few interesting topics related to THz generation and surface resonance plasmonics', Yalin Lu, Seminar, University of Colorado at Boulder, 11/05/2007
179. 'Tunable plasmonics', Yalin Lu, Seminar, ARFL @ WP, 10/05/2007
180. 'A few interesting topics relating to photonic engineering', Yalin Lu, Seminar, ARFL/DELO, 10/02/2007
181. 'Possible NIM using polymeric materials', Yalin Lu, CINT, Sandia National Laboratories, 07/16/2007
182. 'Introduction to the structural combinatorial strategy', Yalin Lu, TsingHua University, P. R. China, 06/05/2007
183. 'Rules of Plasmonic Resonance Tuning', Yalin Lu, The University of Science and Technology of China, 05/28/2007
184. 'Structural Combinatorial Strategy and applications in Nanoscience', Yalin Lu, Oklahoma State University, April, 05/03/2007
185. 'Negative refractive materials', Yalin Lu, Yangzhou University, March, 2007
186. 'Chemical liquid deposition and nanoscience research', Yalin Lu, Guest Speaker of CINT, Sandia National Labs, New Mexico, 2007
187. 'Investigation on new superlattice approach for achieving negative refraction', Yalin Lu, The Royal Institute of Sweden, 2006
188. 'Tunable plasmonic devices', Yalin Lu, AFOSR, 2006
189. 'Thinking more on ferroelectric relaxor materials', Yalin Lu, ONR, 2006
190. 'Negative refraction, superlattice, and devices', Yalin Lu, AFRL/MLPSO@ Wright Patterson, Dayton, Ohio, 2006
191. 'Nonlinear devices for fiber laser applications', Yalin Lu, D. A. Dajani, R. J. Knize, and R. Y. Gou, AFRL/DELO@Kirtland, New Mexico
192. 'New approaches toward negative index materials', Yalin Lu, 2006 US AFOSR Annual Reviewing, University of Michigan, Ann Arbor, USA
193. 'Approaches to efficiently combining high power fiber lasers', Yalin Lu and D. A. Dajani, US AFRL/DELO@Kirtland, New Mexico, 2006
194. 'Advanced combinatorial technology', Yalin Lu, US AFRL@Wright Patterson, Dayton, Ohio, 2005
195. 'Negative refraction and THz components', Yalin Lu, Department of ECE, University of Connecticut, Connecticut, 2005
196. 'A few interesting topics in advanced materials science', Yalin Lu, Department of Materials Science, Nanjing University, P. R. China, 2005
197. 'Application of combinatorial technology in nanoptoelectronics', Yalin Lu, College of Physics, Yangzhou University; Materials Science Institute, Tongji University, P. R. China, 2005
198. 'Progress on nonlinear optical fiber research', Yalin Lu and D. A. Dajani, AFRL/DELO@ Kirtland, New Mexico, 2004
199. 'Nanophotonics and nanoptoelectronics: our approaches?', Yalin Lu, Department of Physics, University of Colorado at Colorado Springs, 2004
200. 'Photonic phantom: crashing market in 2000', Yalin Lu, University of Science and Technology of China, 2003
201. 'All-fiber based laser induced plasmonic spectroscopy', Yalin Lu, University of Science and Technology of China, 2003
202. 'Progress in photonics', Yalin Lu, Institute of Physics, Beijing, P. R. China, 2003
203. 'Combinatorial approach and business development opportunity', Yalin Lu, Institute of Shock Physics, Washington State University, Pullman, 2003