Dr. Lu Wang

Personal_Webpage

lu.wangTHz@outlook.com

Google_Scholar

Education

2016-2020 | Dr. Physics
Deutsches Elektronen-Synchrotron,
Max-Planck Institute | 1.3 very good

2016 | MSc. Physics
Imperial College London | Distinction

2014 | BSc. Physics
Sun Yat-Sun University | 3.7/4

Skills

Programming skills:

MATLAB ●●●●●
C++ ●●●●○
Python ●●○○○

Languages:

Chinese ●●●●●
English ●●●●○
German ●●○○○
Spanish ◐○○○○

Extra-Curricular

2021 Classical Ballet Level 4 (dancing and teaching certificate) @ CEFA, China-Russian joint certificate

2020-2021 Student @ Singapore Dance Theater

2015 Collaborator @ Woman's Fashion Design for Project "Perfect Silhouette"

2012-2014 Director @ Sun Yat-Sen University Torchwood Physics Union

Signature: 汪璐 Lu Wang

Research and Project

2023-now — Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, China (researcher) — Prof. Xiaojun Liu
- Strong-field light-matter interaction
- High-harmonic generation

2022-2023 — The Institute of Photonic Sciences (ICFO), Spain (postdoctoral researcher) — Prof. Georgia Papadakis/Prof. Javier García de Abajo
- Nonreciprocity manipulation
..... Achieve magnetic-free nonreciprocity using Weyl semimetals
..... Build analytical and numerical models for efficient solar energy harvesting (C++)

09-12.2021 — Shanghai Jiao Tong University, China (Visiting scientist)
- Numerical and analytical model for optical to terahertz generation
- Supervise two Ph.D. students

2020-2021 — Nanyang Technological University, Singapore (Postdoctoral researcher) — Prof. Liang Jie Wong
- Explore the extreme nonlinearities of Dirac semimetals
..... build analytical models to describe material properties
- Terahertz generation with 3D Dirac semimetals (C++)
..... FDTD and split-step Fourier method

2016-2020 — Max-Planck Institute, Deutsches Elektronen-Synchrotron, Germany (Ph.D. Physics) — Prof. Franz Kaertner/Dr.habil. Arya Fallahi
- Nonlinear light-matter interaction (C++)
..... coupled nonlinear wave equations
..... finite difference method
..... HPC parallelization with OpenMP and MPI
- Give theoretical guidance to experiments
- Supervisor of a 1-year master project
- Teaching assistant

07-09.2015 — Deutsches Elektronen-Synchrotron, Germany (Summer student)
- Theoretical study on terahertz generation

2014-2016 — Imperial College London, U.K. (MSc. Physics) — Prof. John Tisch
- Nonlinear pulse propagation (MATLAB)
- Laser induced damage in hollow core fiber (MATLAB)

2013-2014 — CERN, Switzerland (BSc. thesis) — Prof. Michael Doser
- Rydberg antihydrogen acceleration in Penning trap (MATLAB)
- Laser sympathetic cooling of antiproton in Paul trap (MATLAB)

2010-2014 — Sun Yat-Sen University, China (BSc. Physics) — Prof. Daoxin Yao
- Calculate the band structure of graphene

2013 — CERN, Switzerland
Summer student/ Research assistant

Volunteer in Science

12.2022 — ICFO tour (Spain) — Federica Beduini
06.2019 — Sommer des Wissens (Germany) — Jenny Witt
07.2018 — African Conference on Physics (Namibia) — Ketevi Assamagan
09.2013 — Autumn Meeting of the Chinese Physical Society (China)

Awards

2023 — Marie Sklodowska-Curie Individual European Postdoctoral Fellowship — European Commission
Not funded but awarded with "Seal of Excellence" (87%)

2022 — Severo Ochoa Excellence Program Postdoctoral Fellowships — Spain
The Institute of Photonic Sciences (ICFO): 37,900.00 Euros/year

2022 — Woman in Ultrafast Science Global Award — China
Finalist candidate

2016-2020 — International Max Planck Research Schools (IMPRS) — Germany
Max-Planck Institute: Fellowship

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Programming skills:

MATLAB ● ● ● ● ●
C++ ● ● ● ● ○
Python ● ● ○ ○ ○

Languages:

Chinese ● ● ● ● ●
English ● ● ● ● ○
German ● ● ○ ○ ○
Spanish ◐ ○ ○ ○ ○

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2018	IMPRS travel grant 1,500.00 Euros	Germany
2014	American Association of Physics Teachers Outstanding Presentation	U.S.A
2013	China Scholarship Council National Scholarship: 5,100.00 Swiss Frank	China
2013	CERN Webfest Championship (team award)	Switzerland
2013	Sun Yat-Sen University Undergraduate Scholarship	China
2013	China National Undergraduate Curricular Academic Science and Technology Competition 3rd Prize	China
2012	Sun Yat-Sen University Individual Scholarship	China

Representative Publications

corresponding author (*), journal impact factor (IF)

2023, L. Wang* "Nonreciprocal electromagnetic wave manipulation via a single reflection" Advanced Photonics Research, IF-3.7
https://doi.org/10.1002/adpr.202300194

2023, L. Wang et. al. "Maximal Violation of Kirchhoff's Law in Planar Heterostructures" Physical Review Research, IF-4.2
https://doi.org/10.1103/PhysRevResearch.5.L022051

2022, L. Wang* et. al. "Dielectric-laser acceleration with spatial-temporal-coupled driving pulses", Communications Physics, IF-6.5
https://doi.org/10.1038/s42005-022-00954-8

2022, L. Wang et. al. "Highly efficient terahertz generation using 3D Dirac semimetals", Laser & Photonics Rev., IF-13.2
https://doi.org/10.1002/lpor.202100279

2020 L. Wang* et. al. "Tilted-pulse-front schemes for terahertz generation" Laser & Photonics Rev., IF-13.2
https://doi.org/10.1002/lpor.202000021

2020 L. Wang* et. al. "Full 3D+1 modelling of tilted-pulse-front setups for single-cycle terahertz generation" J. Opt. Soc. Am. B, IF-2.1
https://doi.org/10.1364/JOSAB.379142

2018 GM. Rossi, L. Wang et. al. "CEP dependence of signal and idler upon pump-seed synchronization in optical parametric amplifiers" Opt. Lett., IF-3.8
https://doi.org/10.1364/OL.43.000178

2018 L. Wang* et. al. "High efficiency terahertz generation in a multi-stage system" Opt. Express, IF-3.9
https://doi.org/10.1364/OE.26.029744