CURRICULUM VITAE

Dr. R. Arun

Assistant Professor,
Department of Physics
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Central University ofTamilNadu,
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Academic Qualifications:

2003: ***Ph.D.*** **(Physics)**

Quantum Optics division, Physical Research Laboratory, Navrangpura, Ahmedabad, 380009, India.
Thesis Title: *"Dynamics of Cold Atoms in High Quality Cavities"*

1996: ***M.Sc.*** **[Physics]**

Percentage marks/ CGPA: 68%

R.K.M. Vivekananda College, Mylapore, Chennai - 600004

Positions Held:

Assistant Professor: (June 2013 – Present)
School of Basic and Applied Sciences, Central University of TamilNadu, Thiruvarur, Tamil Nadu.

Assistant Professor (July 2009 – June 2013)
SRM University (Deemed), Kattankulathur, Chennai

Senior Lecturer (Oct. 2008 – July 2009)
AMET University (Deemed), Kanathur, Chennai

Post-Doctoral Fellow: (April 2007 – Sep. 2008)

Physical Research Lab, Ahmedabad, India

Post-Doctoral Fellow: (Feb. 2004 – Feb. 2007)

Weizmann Institute of Science, Rehovot , ISRAEL

Research Interest:

- Quantum Optics
- Quantum Computation
- Quantum Interferences in spontaneous emission
- Coherent control of dispersion/absorption of a medium

Personal Profile:

Sex	Male	***Date of birth***	September 14, 1974
Marital Status/Family	Married	***Nationality***	Indian.

Conferences/Seminars/Workshops organized as:

- **Treasurer**, *National Conference on Current Trends in Soft Matter (NCCTSM-2015), Department of Physics, School of Basic and Applied Sciences, Central University of Tamilnadu, Thiruvarur, Tamilnadu, March 19-20, India 2015.*

Journal Publications:

1. Protecting bipartite entanglement by collective decay and quantum conferences, Anjali N. Nair and **R. Arun,** Quantum Inf Process **21**, 272 (2022). DOI: https://doi.org/10.1007/s11128-022-03605-7

2. Squeezing in resonance fluorescence via vacuum induced coherences, H.B. Crispin and **R. Arun,** J.Phys. B; At. Mol. Opt. Phys. **53**, 055402 (2020). DOI: *https://doi.org/10.1088/1361-6455/ab5c3a*

3. *Fluorescence control through vacuum induced coherences*, H.B. Crispin and **R. Arun,** J.Phys. B; At. Mol. Opt. Phys. **52**, 075402 (2019). DOI: *https://doi.org/10.1088/1361-6455/ab08e3*

4. "*Comment on protecting bipartite entanglement by quantum interferences*", Anjali N. Nair. and **R. Arun** , Phys. Rev. A **97**, 036301 (2018). DOI: *https://doi.org/10.1103/PhysRevA.97.036301*

5. *Superluminal light propagation via quantum interference in decay channels*. **R. Arun**, Phys.Rev. A **94**, 043843 (2016). *DOI: https://doi.org/10.1103/PhysRevA.94.043843*

6. *Phase control of Squeezing in Fluorescence Radiation*, **R. Arun**, J. Phys. B: At. Mol. Opt. Phys. **47**, 245501 (2014). *DOI: https://doi.org/10.1088/0953-4075/47/24/245501*

7. *Interference assisted Squeezing in fluorescence radiation*, **R. Arun**, Phys. Lett. A, **377**, 200(2013).

8. *Atom Lithography with Near-Resonant Standing Waves*, **R. Arun**, Offir Cohen, & I.Sh. Averbukh, Phys. Rev. A , **81**, 063809 (2010).

9. *Interference-induced splitting of Resonances in Spontaneous emission*, **R. Arun**, Phys. Rev. A **77**, 033820 (2008).

10. *Comment on ``Interference-Induced Gain in the Autler-Townes doublet....*" **R. Arun**, Phys. Rev. A **73**, 067801 (2006).

11. *Atom Nanolithography with Multilayer Light Masks*, **R. Arun**, I. Averbukh, and T. Pfau, Phys. Rev. A **72**, 023417 (2005).

12. *Subluminal to Superluminal Propagation in a Left-Handed Medium*, S.D. Gupta, **R. Arun**, and G.S Agarwal, Phys. Rev. B **69**, 113104 (2004).

13. *Dark States and Interferences in Cascade Transitions of Ultracold Atoms in a Cavity*, **R. Arun** and G. S. Agarwal, Phys. Rev. A **66**, 043812 (2002).

14 *Tunneling and Traversal of Ultracold Atoms through Vacuum Induced Potentials*, **R. Arun** and G. S. Agarwal, Phys. Rev. A **64**, 065802 (2001).

15. *Resonant Tunneling of Ultracold Atoms through Vacuum Induced Potentials*, G. S. Agarwal and **R. Arun**, Phys. Rev. Lett. **84**, 5098 (2000).

16. *Mazer Action in a Bimodal Cavity*, **R. Arun**, G. S. Agarwal, M. O. Scully, and H. Walther, Phys.Rev. A **62**, 023809 (2000).

Conference Proceedings:

1. *Atom Lithography with Near-Resonant Light Masks*, **R. Arun**, Offir Cohen, and I. Averbukh, ``Proceedings of ISF Workshop on Quantum Dynamics of Cold Atoms and Light (QUDAL)", Eilat, Israel, Feb. 26 - Mar. 3, 2006.

2. *Nano-lithography using Multilayer Light Masks***, R. Arun**, I. Averbukh, and T. Pfau, Proceedings of FRench-Israeli Symposium on Non-linear and Quantum Optics, Ein Bokek, Israel, 20-25, Feb., 2005.

Invited Talks:

1. Subluminal and Superluminal Light Propagation, **R. Arun,** Invited talk given in "One-day Physics Symposium INPHYNITT-17", held at National Institute of Technology (NIT), Trichy, India, Feb 24, 2017.

2. Quantum Interferences in Resonance Fluorescence**, R. Arun**, Invited talk given in "International Conference on Opto-Electronics and Photonic Materials", held at Sastra University,Thanjavur, India, Feb 27-28, 2015.

3. Atom Lithography with Multilayer Light Masks, **R. Arun**, Invited talk given in ``International Symposium on Quantum Optics", held at Physical Research Laboratory, Ahmedabad, India, July 24-27, 2006.

4. Tunneling of Ultracold Atoms through Vacuum Induced Potentials, **R. Arun**, Invited talk given in ``International Conference on Perspectives in Theoretical Physics", held at Physical Research Laboratory,Ahmedabad, India, 8-12, Jan., 2001.