

Dr. Shafeequ Ali A. K.

Assistant Professor

Department of Physics

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Dr. Shafeequ Ali A K has earned his B. Sc. Degree in Physics from the University of Calicut, Kerala; he did his Post-graduation in Physics from Aligarh Muslim University, Aligarh, and a Doctorate in Physics on the topic ‘nonlinear pulse propagation in oppositely directed coupler: optical bistability and modulational instability’ from Pondicherry Central University, Puducherry in the year of 2018. He has worked as a D.S. Kothari Postdoctoral Researcher in the Department of Nonlinear Dynamics, Bharathidasan University for a period of three years. He has also worked as a Visiting Scientist in the Department of Nonlinear Dynamics, Bharathidasan University under the scheme of DST National Chair of Prof. M. Lakshmanan. His topics of interest are solitons and modulation Instability in nonlinear fiber optics, negative index materials, and oppositely directed couplers. He has published more than 20 research articles in reputed international journals.

EDUCATION**B.Sc. (Physics)** University of Calicut, Kerala, India 2004-2007**M.Sc. (Physics)** Aligarh Muslim University, Aligarh, India 2007-2009**Ph.D. (Physics)** Pondicherry Central University, India 2012-2018**ACADEMIC EXPERIENCE**

- Worked as a ***Guest Lecturer*** in the Department of Physics, S S College Areacode from December 2009 to January 2012.

- Worked as a D S Kothari Postdoctoral Fellow in Department of Nonlinear Dynamics, Bharathidasan University from May-2019 to April-2022.

➤ **TOPICS OF RESEARCH**

Solitons and modulation Instability in nonlinear fibre optics, negative index materials and oppositely directed couplers.

➤ **TITLE OF PH.D THESIS**

Nonlinear pulse propagation in oppositely directed coupler: optical bistability and modulational instability.

➤ **DST-SERC SCHOOL PARTICIPATED**

- ✓ DST-SERC School on **Nonlinear Dynamics** Organised by Department of Physics, Punjab University, Chandigarh, India (January 27 to February 18, 2014).
- ✓ DST-SERC School on **Lasers and Nonlinear Optics** Organised by Department of Physics, Pondicherry University, Puducherry, India (March 22 to April 11, 2016).

➤ **AWARDS AND RECOGNITION**

SL. No	Name of Fellowship	Funding Agency	Year
1	University fellowship	UGC	2012
2	Dst-Purse	DST	2014

Membership in professional Bodies:

1. Membership in Optical Society of America
2. Membership in IEE

➤ LIST OF PUBLICATIONS**✓ A: In International Journals:**

<i>S. No</i>	<i>Names of all the authors</i>	<i>Title of the paper</i>	<i>Name of the journal, volume, page and</i>
	A. K. Shafeequ Ali, K. Porsezian, and T. Uthayakumar	Influence of self-steepening and intra pulse Raman scattering on modulation instability in oppositely	Physical Review E 90 , 042910 (2014).
	A.K.ShafeequAli , K.Nithyanandan, K.Porsezian	Theoretical investigation of modulation instability in a three-core coupler with negative index material	Physics Letters A 379 , 223 (2015).
	A.K.ShafeequAli , K.Nithyanandan, K.Porsezian and Andrei I Maimistov	Modulation instability in a triangular three core coupler with a negative-index material channel	Journal of Optics 18 , 035102 (2016) (9pp)
	A.K.ShafeequAli , K.Nithyanandan, K.Porsezian and Andrei I Maimistov	Influence of Birefringence in the Instability Spectra of Oppositely Directed Coupler with Negative Index Material	Physical Review A 93 , 023848 (2016)

	A.K.ShafeequaAli , K.Nithyanandan, K.Porsezian and Patrice Tchofo-	Switching and Optical Bistability in Oppositely Directed Coupler	IEEE Journal of Quantum Electronics 52 , 6100508, (2016)
	K. Porsezian, A. K. Shafeequa Ali and K. Nithyanandan	Threshold Conditions of Modulation instability in Oppositely directed couplers.	Journal of Optics 18 , 125502 (2016) (7pp)
	K.Nithyanandan, A.K.Shafeequa Ali , M.P Muhammed Nishad, K.Porsezian P.	Multistability and switching oppositely-directed saturated coupler	Optics Communications 416 , 145 (2018).
	K.Porsezian, A.K.Shafeequa Ali , and Andrei I Maimistov	Modulation instability in two- dimensional waveguide arrays with alternating signs of refraction indices	Journal of the Optical Society of America B 35 , 2057 (2018).
	A.K. Shafeequa Ali , K. Porsezian, K.A. Abdul Rahoof	Analyzing the effect of higher order nonlinearity on dispersion relation and optical multistability generation in	Optik - International Journal for Light and Electron Optics 181 , (2019) 956–963
	M. Shackeerali A.K. Shafeequa Ali , A. Uthayakumar	Spatio-temporal instability in negative index materials	Optik - International Journal for Light and Electron Optics 189 , (2019) 15–22
	A.K.Shafeequa Ali , M.Lakshmanan	Self-trapped dynamics of a hollow Gaussian beam in metamaterials	Physics Letters A 384 , (2020) 126527
	AK. Shafeequa Ali , MZ Ullah and M Lakshmanan	Impact of higher-order effects on dissipative soliton in metamaterials	Physics Letters A 384 , (2020) 126744

	AK. Shafeeqe Ali , AI Maimistov, K Porsezian, A Govindarajan and M Lakshmanan	Modulational instability in a non-Kerr photonic Lieb lattice with metamaterials	Physical Review A 103 , (2021) 013517
	A Sharafali, AK. Shafeeqe Ali and M Lakshmanan	Modulation instability induced supercontinuum generation in liquid core suspended photonic crystal fiber with cubic-quintic	Physics Letters A 399 (2021) 127290
	A.K. Shafeeqe Ali , A. Govindarajan and M. Lakshmanan	Stabilization of light bullets in nonlinear metamaterial waveguides	Physical Review A 105 , 033516 (2022).
	M. Shackeerali A.K. Shafeeqe Ali , A. Uthayakumar	Impact of higher-order effects on modulation instability in negative index materials	Optik - International Journal for Light and Electron Optics 256 168660 (2022).

✓ **B : published in Conferences /Symposia , etc.:**

S. No	Names of all the authors	Title of the paper	Name of the proceedings/Book, volume, year and
	Shafeeq Ali A.K. and K. Porsezian	Impact of Higher Order Effects on Solitons Induced by Modulation Instability	International conference on “Perspectivies on Nonlinear Dynamics” (PNLD - 2013) held on July 15 – 18, 2013 at HyderabadCentral University (HCU),

	Shafeeq Ali A.K. and K. Porsezian	Cross-phase modulation induced modulation instability in negative index materials with saturable nonlinearity	22nd National Laser Symposium, page no. 82, ISBN 9789382460053, held on January 08-11, 2014 at Manipal University, Manipal,
	K. Nithyanandan , A.K. Shafeequ Ali and K. Porsezian	Modulational instability in the semiconductor doped dispersion decreasing fiber - A prospect for Ultra short pulse generation	Photonics 2014: 12th International Conference on Fiber Optics and Photonics © Optical society of America 2014
	A. K. Shafeequ Ali , K Porsezian and K. Nithyanandan	Modulation Instability in Oppositely directed coupler	Theme meeting on Ultrafast Science (UFS) 2014 , at Manipal University, Manipal, Karnataka,
	A. K. Shafeequ Ali , K. Porsezian and K. Nithyanandan	Impact of higher order effects on modulation instability in negative index materials	DAE-BRNS National Laser Symposium (NLS23) Department of Physics Sri Venkateswara University, Tirupati 517 502, A. P. India
	Shafeequ Ali A K and K. Porsezian	Modulation Instability in Oppositely Directed Couplers	Proceedings of 1st RAP 2014 Pondicherry University
	K. Nithyanandan , A.K. Shafeequ Ali and K. Porsezian	A Theoretical Investigation of Modulational instability in the semiconductor doped dispersion decreasing fiber	DAE-BRNS National Laser Symposium (NLS24)
	K. Nithyanandan , A.K. Shafeequ Ali and K. Porsezian	Modulational Instability Induced Supercontinuum Generation in Exponential Saturable Nonlinear Media	DAE-BRNS National Laser Symposium (NLS24)
	K. Nithyanandan , A.K. Shafeequ Ali and K.	A novel observation of optical bistability in oppositely directed coupler.	Frontiers in optics 2016, JW4A.169 Optical Society of

	K Nithyanandan, AK Shafeequ Ali, PT Dinda, Ph Grelu	Bistability in oppositely directed coupler with negative index material channel	<i>Advanced Photonics</i> <i>2018 (BGPP, IPR, NP,</i> <i>NOMA, Sensors,</i> <i>Networks, SPPCom,</i> <i>SOF)</i> , OSA Technical Digest (online) (Optical Society of America, 2018), paper
	K. Nithyanandan, A.K. Shafeequ Ali, and K. Porsezian	A study on the Modulational Instability in delayed Saturable Nonlinear Optical Media	in <i>JSAP-OSA Joint</i> <i>Symposia 2016</i> <i>Abstracts</i> , (Optical Society of America, 2016), paper