Faculty Profile

1. Name: Dr. Amitava Bandyopadhyay
2. Designation: Assistant Professor Stage - III
3. Email(s): amitava.bandyopadhyay@visva-bharati.ac.in
4. Address: Department of Physics, Visva-Bharati, Santiniketan, PIN 731235, West Bengal, India.
5. Research ID (Google Scholar, ORCID ID, Scopus ID, WOS ID, Vidyan ID, Research Gate):
   ORCID ID 0000-0002-7065-6510, Scopus ID: amitava.bandyopadhyaya@visva-bharati.ac.in
6. Membership of Learned Societies: Optical Society of America.
7. Publication Summary:
   (a) No. of Research papers - 28
   (b) No. of Book Chapters - 0
   (c) No. of Conference papers - 25
   (d) h-index - 9
   (e) i-10 index - 9
8. Date of Joining Visva-Bharati Service: 1st June 2009.
9. Education:

Degree	Year	University/Institution
Ph. D.	2008	University of Calcutta
M. Sc. (Physics)	2000	University of Calcutta
B. Sc.	1998	University of Calcutta

10. Academic Positions held (in reverse chronological order)

Sl. No.	Positions held	Institution	Period
1.	Assistant Professor Stage – III	Visva-Bharati	01.06.2018 - Present
2.	Assistant Professor Stage – III	Visva-Bharati	01.06.2013 – 31.05.2018
3.	Assistant Professor Stage – I	Visva-Bharati	01.06.2009 – 31.05.2013

11. Areas of Research: Laser Spectroscopy, Quantum Optics.
12. Subject Specialization: Plasma Physics (in M. Sc.)
13. Courses Teach / Taught:

Undergraduate Courses	Quantum Mechanics II
Postgraduate Courses	Laser Physics, Quantum Electronics, General Laboratory I, General Laboratory III, Electrodynamics.
Ph.D. Course-work	Laser Physics and Quantum Optics

14. Research Guidance:
   (a) No. of Postdoctoral students (Completed / Ongoing): 0

(b) No. of Doctoral students (Completed / Ongoing): Completed 5, Ongoing 2.

(c) No. of M.Sc. Dissertations: 29.

15. Research Collaboration (National / International): Prof. Ashok Kumar Mahapatra, NISER Bhubaneswar, Dr. Suman Mondal, University of Birmingham.

16. Research Grants/Projects

Sl. No.	Project Title	PI/Co-PI	Funding Agency	Amount	Completed/Ongoing
1.	Manipulation of population in an atomic vapour system through coherent laser beams	PI	SERB	Rs. 20.00 Lakhs	Completed.
2.	Effect of coherent radiation fields on the transparency of alkali atomic vapour medium.	PI	UGC	Rs. 13.67 Lakhs	Completed.

17. Talks Delivered at International / National Conferences/Seminars/Symposium: 8

18. List of Scientific Publications:

Sl. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	S. Garain, S. Goldar, S. Roy and **A. Bandyopadhyay**	Controlling optical multistability and all-optical switching in a four level Y-type atomic system.	Indian Journal of Physics	**98**	3095–3105	2024
2.	Suman Mondal and **Amitava Bandyopadhyay**	Electromagnetically induced transparency and Autler-Towns effect in multi-level cascade type system in ^{133}Cs.	Physica Scripta	**98**	115508	2023
3.	Suman Garain, Suman Mondal, Kalan Mal. Subhasish Roy and **Amitava Bandyopadhyay**	Controlling optical bistability, multistability and all-optical switching through multi-photon excitation process.	Journal of Physics B: Atomic, Molecular and Optical Physics	**56**	185401	2023
4.	Suman Garain, **Amitava Bandyopadhyay**, Dipankar Bhattacharyya, Suman Mondal, and Subhasish Roy	Simple high-precision diode laser system with digital control.	Applied Optics	**62**	956	2023
5.	Suman Mondal, Dipanwita	Electromagnetically	Optik	**265**	169410	2022

	Das, Parantap Dey, Dipankar Bhattacharyya and **Amitava Bandyopadhyay**	induced transparency, narrow absorption and transient response in a three-photon excitation process.				
6.	Suman Mondal, Kalan Mal, Dipankar Bhattacharyya, Nikhil Pal and **Amitava Bandyopadhyay**	Microwave assisted gain in inverted-Y type atomic system	Optik	**226**	165962	2021
7.	Suman Mondal, Sushree Subhadarshinee Sahoo, Ashok Kumar Mohapatra, **Amitava Bandyopadhyay**	Formation of electromagnetically induced transparency and two-photon absorption in close and open multi-level ladder systems	Optics Communications,	**472**	126036	2020
8.	Kalan Mal, Khairul Islam, Suman Mondal, Dipankar Bhattacharyya, and **Amitava Bandyopadhyay**	Electromagnetically induced transparency and electromagnetically induced absorption in Y-type system	Chinese Physics B	**29**	054211 2020	2020
9.	Suman Mondal, Arindam Ghosh, Khairul Islam and **Amitava Bandyopadhyay**	An optical narrowband switch between subluminal and superluminal light propagation in the inverted-Y configuration.	Laser Physics,	**29**	075204	2019
10.	Suman Mondal, Arindam Ghosh, Khairul Islam and **Amitava Bandyopadhyay**	Optical switching phenomenon in ladder type atomic system under varying wavelength mismatching effect with one due to a Rydberg transition.	Optics Communications	**435**	378	2019
11.	Suman Mondal, Arindam Ghosh, Khairul Islam, Dipankar Bhattacharyya and **Amitava Bandyopadhyay**	Effect of residual Doppler averaging on the probe absorption in cascade type system: A comparative study.	Chinese Physics B	**27**	094204	2018
12.	Arindam Ghosh, Khairul Islam, Suman Mondal, Dipankar Bhattacharyya, Nikhil Pal and **Amitava Bandyopadhyay**	A study on electromagnetically induced transparency and velocity selective optically pumped absorption in an eight-level inverted Y-type atomic system.	Journal of Physics B: Atomic, Molecular and Optical Physics	**51**	145501	2018
13.	Khairul Islam, **Amitava Bandyopadhyay**, Bankim Chandra Das, Satyajit Saha, Sankar De and Dipankar Bhattacharyya	Splitting of electromagnetically induced absorption signal in a five-level V-type atomic system.	Journal of the Optical Society of America B: Optical Physics	**34**	2550	2017
14.	Khairul Islam, Dipankar Bhattacharyya, Arindam	Study on probe field propagation in presence of	Journal of Physics B:	**50**	215401	2017

	Ghosh, Debasish Biswas and **Amitava Bandyopadhyay**	control and coupling fields through a four-level N-type atomic system.	Atomic, Molecular and Optical Physics			
15.	Arindam Ghosh, Khairul Islam, Dipankar Bhattacharyya and **Amitava Bandyopadhyay**	Revisiting the four-level inverted-Y type system under both Doppler-free and Doppler-broadened conditions: an analytical approach.	Journal of Physics B: Atomic, Molecular and Optical Physics	**49**	195401	2016
16.	Dipankar Bhattacharyya, Arindam Ghosh, **Amitava Bandyopadhyay**, Satyajit Saha and Sankar De	Observation of Electromagnetically induced transparency in six-level Rb atoms and theoretical simulation of the observed spectra.	Journal of Physics B: Atomic, Molecular and Optical Physics	**48**	175503	2015
17.	Priyanka Poddar, **Amitava Bandyopadhyay**, Debasish Biswas, Biswajit Ray and Pradip N. Ghosh	Measurement and analysis of rotational lines in the $(2\nu_1 + \nu_2 + \nu_3)$ overtone band of H_2O perturbed by CO_2 using near infrared diode laser spectroscopy.	Chemical Physics Letters	**469**	52-56	2009
18.	Shrabana Chakrabarti, Ayan Ray, **Amitava Bandyopadhyay**, Dipankar Bhattacharyya, Biswajit Ray, B. N. Jagatap, K. G. Manohar and Pradip N. Ghosh	Laser frequency stabilisation for atom cooling and magnetic field compression of the trap.	Laser Physics	**17**	1176-1182	2007
19.	Dipankar Bhattacharyya, **Amitava Bandyopadhyay**, Shrabana Chakrabarti, Biswajit Ray and Pradip N. Ghosh	Velocity dependent pump-probe spectroscopy for a five-level system: an application to Rb D_2 transitions.	Chemical Physics Letters	**440**	24-30	2007
20.	**Amitava Bandyopadhyay**, Biswajit Ray, Pradip N. Ghosh, Danielle L. Niles and Robert R. Gamache	Diode laser spectroscopic measurements and theoretical calculations of line parameters of nitrogen broadened water vapour overtone transitions in the 818-834 nm wavelength region.	Journal of Molecular Spectroscopy	**242**	10-16	2007
21.	Ayan Ray, **Amitava Bandyopadhyay**, Sankar De, Biswajit Ray, Pradip N. Ghosh	A simple scanning semiconductor diode laser source and its application in wavelength modulation spectroscopy around 825 nm	Optics & Laser Technology	**39**	359-367	2007
22.	Shrabana Chakrabarti, Amitkiran Pradhan, **Amitava Bandyopadhyay,** Ayan	Velocity selective resonances and electromagnetically induced transparency in	Indian Journal of Physics	**80**	487-489	2006

	Ray, Biswajit Ray, Dipankar Bhattacharyya, Pradip N. Ghosh	atomic rubidium.				
23.	**A. Bandyopadhyay**, A. Ray, B. Ray, P. N. Ghosh	Line shape study of argon broadened water vapour overtone transitions in the 818-834 nm wavelength region.	Journal of Molecular Spectroscopy	**234**	93-98	2005
24.	**A. Bandyopadhyay**, A. Ray, B. Ray, P. N. Ghosh	Line shape study of argon broadened water vapour overtone transitions in the 818-834 nm wavelength region.	Journal of Molecular Spectroscopy	**234**	93-98	2005
25.	**Amitava Bandyopadhyay**, Ayan Ray, Biswajit Ray, Pradip N. Ghosh	On line shape measurement and simulation of rovibrational transitions of water vapour in the near infrared region.	Chemical Physics Letters	**401**	135-139	2005
26.	S. Chakrabarti, A. Pradhan, **A. Bandyopadhyay**, A. Ray, B. Ray, N. Kar, P. N. Ghosh	Velocity-selective resonance dips in the probe absorption spectra of Rb D_2 transitions induced by a pump laser.	Chemical Physics Letters	**399**	120-124	2004
27.	A. Ray, **A. Bandyopadhyay**, B. Ray, D. Biswas, P. N. Ghosh	Line-shape study of water vapour by tunable diode laser spectrometer in the 822-832 nm wavelength region.	Applied Physics B	**79**	915-921	2004
28.	A. Ray, **A. Bandyopadhyay**, B. Ray, P. N. Ghosh	Frequency stabilisation of a GaAlAs semiconductor diode laser to an absorption line of water vapour at 822 nm	IEE Proceedings Optoelectronics	**151**	490-495	2004

****

Last updated on (31 / 07/ 2025)