PAPIYA DHARA
Curriculum Vitae- March 2024

CONTACT INFORMATION

Dr. Papiya Dhara
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E M P L O Y M E N T

Assistant Professor of Physics, *Adamas University*, June 2017 onwards.

Assistant Professor of Physics, *SRIIT Hyderabad*, February 2017 to June 2017

Summer Internship on Nuclear Physics: *VECC-Kolkata*, 45 days (18/5/2010 - 2/7/2010)

E D U C A T I O N

Ph.D*	March, 2017	IIT(ISM) DHANBAD	------
M.Sc. in Applied Physics	2011	IIT(ISM) DHANBAD	8.12 OGPA
B.Sc. in Physics	2009	Durgapur Government College, Durgapur, University of Burdwan	57.12 %
12th Class	2005	West Bengal council of Higher secondary Education	82.9 %

10th Class	2003	West Bengal board of secondary Education	84.1 %

*The topic of my PhD work is "*Investigations on design and characterization of optical fiber sensors for various parameters",* under the guidance of *Dr. Vinod Kumar Singh, Department of Applied Physics, IIT(ISM) Dhanbad- India* and 1-year work of my thesis under guidance of *Professor Guido Perrone, Department of Electronics and telecommunication, Politecnico di Torino, Italy.*

R E S E A R C H E X P E R I E NCE

Postdoctoral fellow, *City, University of London, UK*, Erasmus Mundus Leaders postdoctoral scholarship by European commission, 2018

R E S E A R C H I N T E R E S T S

Photonic crystal fiber (PCF) based interferometric sensor; Optical fiber based SPR sensor; Intensity modulated optical fiber pH humidity etc. sensor; Simulation of PCF and other OFS by FEMSIM

P U B L I C A T I O N S

International journal publications:

1."Effect of MMF stub on the sensitivity of a photonic crystal fiber interferometer sensor at 1550 nm" P. Dhara, Vinod K Singh, Optical Fiber Technology, 21(2015)154–159. ISSN: 1068-5200(I.F: 2.8)

http://dx.doi.org/10.1016%2Fj.yofte.2014.11.008

2."Reflectance based low cost disposable optical fiber SPR probe with enhanced bio-chemical sensitivity" Papiya Dhara, Vinod Kumar Singh,Guido Perrone, Massimo Olivero, Optical Engineering, SPIE, 55(4), 046114 (April 2016). ISSN: 0091-3286 (I.F: 1.3)

https://doi.org/10.1117/1.OE.55.4.046114

3.“Improved mesostructure by incorporating CTAB surfactant to avail advance optical fiber pH probe” P. Dhara, V.K.Singh, Laser physics, IOP Science, 27(2017) 035101 (6pp), **ISSN: 1555-6611** . .(I.F: 1.2)

10.1088/1555-6611/aa57d8

4. “Optical fiber based heavy metal detection using the Localized Surface Plasmon Resonance technique” Papiya Dhara, Rahul Kumar, Leonardo Binetti, Hien T Nguyen, Lourdes S Alwis, Tong Sun and Kenneth T V Grattan IEEE SENSOR (19) 8720- 8723 (2019). **ISSN** 1558-1748, (I.F: 4.325)

https://doi.org/10.1109/JSEN.2019.2921701

5. “Fibre optic chemical sensors for environmental monitoring using sensitive nano material coatings” Dissanayake, K. P. W., Dhara, P., Kumar, R., Ghosh, S. , Nguyen, T.H., Sun, T. and Grattan, K. T. V. ,Asian Journal of Physics 28, 7-9, 567-578 0971-3093 (2019). 0971-3093

6. Investigation of rectangular solid-core photonic crystal fiber as temperature sensor, Papiya Dhara, V.K.Singh, Microsystem Technologies, 29 (2020**)**, ISSN: 1432-1858 (I.F:2.37) https://doi.org/10.1007/s00542-020-04927-1

7. Fractal Charge of Quarks and Fractal Properties of Hadrons, A.Bhattacharya, S.Pal, D.S Bhattacharya, **P. Dhara**, Journal of Particle Physics, 2021,ISSN: 2522-3623. http://DOi.org;10.22606/jpp.2021.51001

8. Properties of Strange Quark Matter in the context of Diquark Correlation. A. Bhattacharya1, S. Pal, **P. Dhara**, D. S. Bhattacharya, Annalen der Physik, andp.202200297R2), Ann. Phys. (Berlin) 2022, 2200297, DOI: 10.1002/andp.202200297 [IF:2.99]

9. Fractal dimension and Quark–Gluon plasma, A. Bhattacharya, **P. Dhara**, S.Pal and B. Chakrabarti, International Journal of Modern Physics E, https://doi.org/10.1142/S021830132350057X, 2023. [IF: 1.1]

10. Reflection based silicon incorporated silver coated fiber optic SPR sensor for refractive index and temperature measurement, **Papiya Dhara***[1], Vinod K. Singh[2], Anupam Kumar[3], Massimo Olivero[4], Guido Perrone[4], Microsystem Technology (2024). https://doi.org/10.1007/s00542-024-05633-y [IF: 2.37]

PUBLICATION IN INTERNATIONAL/ NATIONAL CONFERENCES

1.NCFMP-2021, Adamas University-Kolkata, India 2021
"Enhanced performance parameter in SPR based fiber-optic sensor using single metallic configurations" Papiya Dhara,
Journal of Physics: Conference Series 2022, IOP Science https://iopscience.iop.org/journal/1742-6596 (Accepted)
2. International Conference on Fibre Optics and Photonics, IIT Kanpur, India, 2016
"Intensity modulated optical fiber pH sensor by incorporating surfactant on thin film to avail advance sensitivity" Papiya Dhara, Moutusi De, Vinod K Singh, OSA conference proceeding,
https://doi.org/10.1364/PHOTONICS.2016.W3A.56.

3.International Photonics West conferences, SPIE , San fransisco, 2015
"Design and Fabrication of Disposable Plasmonic Fiber Probes for Biosensing" P. Dhara, C. Fallautoa, A. Bragliaa, M. Oliveroa, V. A. Popescuc, N. N. Puscasc, A. Vallana,V. K. Singh, G. Perrone, Proc. of SPIE Vol. 9317 93170T-1.

4. International conference of Biophotonics, Florence, Italy, IEEE 2015
"Transmission and Reflection SPR Disposable Fibre Probes for Bio-chemical Sensing" Papiya Dhara,, Massimo Olivero, Alberto Vallana, Guido Perrone, 978-1-4673-7926-7/15/$31.00©2015IEEE.

5. "Photonic crystal fiber Mach-Zehnder interferometric refractive index sensor" P. Dhara, V.K.Singh, http://dx.doi.org/10.1109/WRAP.2013.6917720, IEEE Conference proceeding 2013.

6. "Refractive index sensing by Photonic crystal fiber Mach-Zehnder interferometer at 1550nm" P.Dhara, V.K Singh, Proceedings of the International conference on Advanced nanomaterials & nanotechnology, 2013, Indian Institute Of Technology, Guwahati, India.

7. "A review article on all fiber modal Mach-Zehnder interferometric sensor" P.Dhara, V.K Singh, Proceedings of the National conference on Advances in Lasers and Spectroscopy (ALS-2012), ISBN 978-81-8424-806-7, Nov 01-03 (2012), 01-03 November, 2012, ISM Dhanbad, India.

8. “Temperature Sensitivity of Photonic Crystal Fiber Mach-Zehnder Interferometer Based Sensor” P.Dhara, V.K Singh, Proceedings of the International conference on Microwave and Photonics (ICMAP-2013), 978-1-4799-2174-4/13/$31.00 ©2013 IEEE, ISM Dhanbad, India.

9. “Comparison of surface micro-structured and plasmonic all-fiber delivery probes for laser-induced thermotherapy of tumor cells” Riccardo Gassino, Papiya Dhara, Yu Liu, Hao Yu, Andrea Braglia, Massimo Olivero, Alberto Vallan, Guido Perrone, SPIE INTERNATIONAL CONFERENCEPROCEEDING 97020I (2016) PHOTONICS WEST, International Society for Optics and Photonics, 9702,97020I, San Francisco, California, United States, 2016.

BOOK CHAPTERS

1. World Scientific Publishing Co Pte Ltd, BARYON MASSES IN MEDIUM WITH MOMENTUM DEPENDENT POTENTIAL, 2021, Gribov-90 Memorial Volume, pp. 217-228 (2021) **ISBN:978-981-123-**

https://doi.org/10.1142/9789811238406_0021

2. CRC Press, Taylor & Fransic Group, Chapter 10, Nanomaterials for recovery of Lead heavy metal from wastewater, Book Title: Application of Nanotechnology for resource recovery of wastewater, Editor: Pandey; Tauseef;Manna; Patel;Singh; Dasgotra, 1st Edition February 2024, CRC press, e-Book ISBN: 9781003176350

https://doi.org/10.1201/9781003176350,

COURSES DONE IN PHD PROGRAMME

1. Object oriented programming & Advance Numerical Method
2. Laser & Nonlinear Optics
3. Photonics & Fiber Optics
4. Physics of electronics material & Devices
5. Research Methodology & Statistics

W O R K S H O P S

1. Workshop on Recent Advances in Photonics (WRAP2013), Indian institute of technology (IIT) –New Delhi.

2. Workshop on Photonics "London Plasmonics Forum"2018 at King's College London, UK.

3. Workshop on Photonics "London Plasmonics Forum"2020 at King's College London, UK (online).

T E A C H I N G

Teaching Subjects: Undergraduate

- Engineering Physics
- Introduction to materials
- Wave & Optics
- Electromagnetic Theory, Laser & Fiber Optics
- Modern Physics
- Basic Instrumentation
- Solid State Physics
- Modern Physics Lab
- Engineering Physics Lab
- Electricity Lab
- Laser, Fiber Optics Lab

Teaching Subjects: Postgraduate

- Solid State Physics
- Laser, Fiber optics Lab

Ph.D. Student Supervision: Pursuing 1 student

ORGANISATION OF WORKSHOP/CONFERENCES/WEBINAR:

- Organised National conference on Frontiers of Modern Physics (NCFMP) 2018 at Adamas University as organizing committee member & NCFMP 2020 at Adamas University as Treasurer and technical support.
- Organized webinar on "Effect of Flow Improvers in Transportation of Waxy Crude Oil" by Dr. Shivanjali Sharma, Department of Petroleum engineering,

Rajiv Gandhi Institute of Petroleum Technology on 14th June 2020 in affiliation of Adamas University as Convenor.

- Organized webinar on "*Clinical Investigation Techniques of Gastrointestinal Disorders" by Dr. Ruhina Ahmed, Senior endoscopy Fellow at University Hospitals Coventry, UK on 5th July in affiliation of Adamas Univerity as coordinator.*
- Organized webinar on "Covid19 and Sustainable Development in Developing Country Context: Special Reference to India" by Dr. Joyeshree Roy, Bangabandhu chair professor, Jadavpur University, Asian Institute of Technology (AIT), Thailand on 25th July as coordinator.

Other Academic & Research skills:

- Expertise in software: RSoft, COMSOL, ORIGIN, MATLAB, and C programming
- Reviewer: Photonic sensor journal, IOP(UK) conference proceeding
- Undergraduate and Postgraduate project supervision: 07 students
- Training experience: Gamma detector at Variable Energy Cyclotron Center Kolkata; DLC coating technology at IIT(ISM) Dhanbad;
- Teaching experience: 3 Years (Expertise field: Photonics, Applied Optics, Solid State Physics, Experimental Physics)
- Exam coordination: School of Basic and Applied Sciences, AU examination committee member
- Experience in organization of conference, workshop, cultural activities.

Key Personality skills

- Excellent Presentation, motivational skills.
- Good analytical, logical and mathematical skills.
- Ability to handle the students.
- Ability to provide quality knowledge.

R E C O G N I T I O N S & A W A R D S

Prestigious *Erasmus mundus Areas+ doctoral exchange scholarship* by European commission.

Erasmus Mundus Leaders postdoctoral scholarship by European commission

MHRD Research Fellowship of 5years for PhD Programme

Secretary, *OSA student chapter of IIT(ISM) Dhanbad*

Award for presentation at *National conference on Advances in Lasers and Spectroscopy (ALS-2012)*, IIT(ISM) Dhanbad

Prestigious awards from school, *Indian city municipality (Durgapur) and different institution for brilliant score in Madhyamik (10^{th}) and Higher secondary(12^{th}) exam.*

Awards in different form of *Indian dance competition* like *Kathak*, *Rabindra Nritya* (Type of classical Indian dance) and *Rabindra Sangeet* (Type of Indian song).

Participant of *Indian television quiz show* and owner of certificate

P E R S O N A L I T Y T R A I T S

A hard working and sincere person with positive attitude who is ever ready to learn new things and exploit my knowledge and skills to the best of my capabilities**.**

R E F E R E N C E S

Reference 1:

Name Professor Guido Perrone
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Reference 2:

Name Dr. Asit Kumar Kar
Associate Professor, Department of Applied physics

Indian School of Mines (IIT-Dhanbad), Dhanbad-826004, India
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Reference 3
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Reference 4:
Name Professor Ken Grattan OBE FREng
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Reference 5:
Name Prof. Tong Sun
Professor, School of computer science & Engineering, School of Electrical & Electronics Engineering
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Personal Information

Name: Dr. Papiya Dhara
Father's Name: Mr. Uday Dhara
Sex: Female
Date of Birth:5th June-1987
Languages Known : English, Bengali & Hindi
Permanent Address: C/O – Bijoy Dhara
Subodh Smrity Road, Saheb Bagan, Katwa,
Dist-Purba Burdwan, West Bengal- 713130.

I hereby declare that particulars given herein are true to the best of my knowledge and belief.

Dr. Papiya Dhara
Assistant Professor, Department of Physics
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