

DR. RAJIB CHAKRABORTY

Professor

Department of Applied Optics & Photonics

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Work Experience:

- 1) Professor, Department of Applied Optics & Photonics, University of Calcutta from July 2013 onwards
- 2) Associate Professor, Department of Applied Optics & Photonics, University of Calcutta from October 2008 to June 2013
- 3) Professor & HOD, Department of Electronics & Communication Engineering, Techno India, Salt Lake, from Feb 2007 to Sept 2008
- 4) Professor & HOD, Department of Electronics & Communication Engineering, Bengal Institute of Technology & Management, Santiniketan from October 2005 to Jan 2007
- 5) Research Associate, University of Virginia, USA & Old Dominion University, USA from July 2004 to October 2005

Research on: Acousto-optic memory devices.

- 6) Visiting Scholar, Virginia Polytechnic Institute & State University, USA from May 2002 to May 2004

Research on: Fiber-optic sensor and micromachining.

Educational Qualifications

Doctoral	Ph.D. from the Department of E & ECE, IIT Kharagpur Title: Effective-Index-based Matrix Method for Integrated Optics and some Experimental Studies Degree awarded: June 2003
Masters	M.Sc. (Tech.) in Applied Physics (Optics & Optoelectronics), Calcutta University Year of Passing: 1995
Bachelors	B.Sc. (Hons) in Physics, Calcutta University Year of Passing: 1992

Research Guidance:

Ongoing

Scholar Name	Title	Status	Joint Supervisor
Bapita Roy	Analysis of surface plasmon based integrated optical waveguide devices for communication and sensing application	Ongoing	N/A
Animesh Halder	Development and validation of optical methodologies for potential biomedical and environmental applications	Submitted	Prof. S. K. Pal, SNBNCBS, Kolkata
Srijoy Maiti	Study of different properties of metal and semiconductor based thin films for photonic applications	Ongoing	N/A
Soham Lodh		Enrolled	N/A

Awarded

Scholar Name	Title	Status	Joint Supervisor
Ranjit Das	Studies on the different properties of lithium niobate for photonic device applications	Awarded 2017	N/A
Rajib Ghosh	Characterization and modeling of trailblazing photonic crystal architecture and its optoelectronic applications	Awarded 2019	N/A
Rajorshi Bandyopadhyay	Studies on different photonic bandgap structures and their application in photonics	Awarded 2019	N/A
Saikat Majumder	Design and characterization of photonic integrated circuits by matrix approach	Awarded 2019	N/A

As Joint Supervisor

Scholar Name	Title	Status	Supervisor
Nandini Bodas	Investigations on Modeling, Design and Fabrication of Fiber Bragg Grating Accelerometer and Vibration Sensors	Ongoing	Dr. Somnath Bandopadhyay, CGCRI, Kolkata

Additionally, guided several M. Tech & B. Tech projects

Research Expertise:

- Clean Room processing of Integrated Optical devices on Lithium Niobate, MEMS & Nanophotonic structures on Silicon and glass
- Periodic poling of Lithium Niobate for acousto-optical memory devices

- Designing of Integrated Optical and Nanophotonic devices.
- Processing of Fiber-Optic based Sensors.
- Micromachining of optical materials and optical fibers using Laser.
- Diamond-like Nanocomposite Surface coating Technology

List of sponsored projects handling/handled

	Title	Cost (in Rupees)	Duration	Agency
PI	Study on Acousto-Optical Memory in Periodically Poled Lithium Niobate	Rs 42,57,439	3 Years (Nov 2010-Nov 2013)	DST, GoI
	Diamond-like Nanocomposite as protective coating of optical components	Rs 2,00,000 + Scholarship of Research Scholar	2 Years (Aug 2009-Aug 2011)	CRNN, University of Calcutta
Co-PI	Feasibility Study on Fabrication of Nanocrystal-based Optical Amplifiers and Lasers	Rs 2,00,000 + Scholarship of Research Scholar	1 Year (Aug 2009-Aug 2010)	CRNN, University of Calcutta
	"Patterning of sol-gel based semiconductor oxide films by soft lithography for sensor applications" under "Development of functional nano coatings of technological importance" (SINP)	Rs. 95.5 lakh	5 Year (2012-2017)	Sol-Gel Division CSIR-CGCRI, Kolkata

Affiliations:

- Fellow, Optical Society of India
- Member, Optical Society of America (OSA)
- Member, SPIE
- Honorary Treasurer, Optical Society of India
- Reviewer: IEEE, OSA, SPIE, Elsevier, Springer, Hindawi

Copyrights & Publications: See Appendix- A

List of Conferences/ Seminars/ Workshops/ Summer Schools/ Invited Talks delivered

1. **Invited Lecture** on "Characteristics of one dimensional photonics structures having different types of sequences", delivered at Intl. Conf. of Optics & Electro- Optics,

ICOL-2019, IRDE, Dehradun, Oct 19-22, 2019.

2. **Invited Lecture** on “Laser-its types, generation and application” delivered at Workshop on Laser Technology for Tactical Communication, Dec 11-12, 2018 at Jadavpur University, Kolkata, India.
3. **Invited Lecture** on “Manipulating light using photonic crystals” delivered at International Topical Meeting on Applied and Adaptive Optics, INTOPMAA-17 Aug 11-13, 2017 at IIST, Trivandrum, India.
4. **Invited Lecture** on “Investigation of properties of lithium niobate by non- invasive technique” delivered at Intl. Conf. on Light and Light based Technology (ICLLT), Tezpur University, 26-28 Nov, 2016
5. **Invited Lecture** on “Silicon Photonics” delivered at National Seminar on “Recent advancements in Lightwave Technology” Sept 23-24, 2016 at MCKV College of Engineering, Howrah, West Bengal
6. **Invited Lecture** on “Optical Systems for exploring extremities” delivered at Wavicle-2016, July 26-27, 2016 at Techno India, Saltlake, Kolkata
7. **Invited Lecture** on “Laser Characteristics, Laser modes & Some Laser Devices” delivered at Short Term Training Programme on “Laser : Principles & Applications”, Nov 30 – Dec 4, 2015 at NITTTR, Kolkata
8. **Presented** paper on “Studies on characteristics of MMI devices using matrix Approach” at SPIE Optics+Photonics Meeting at San Diego, USA held during 17th Aug-21st Aug 2014.
9. **Invited Lecture** on “Lithography” delivered at TEQIP II sponsored National Workshop on Optoelectronics, Fiber-optic Communication and Sensors-14 (OFCS-14), March 21-23, 2014 at College of Engineering and Management, Kolaghat, West Bengal.
10. **Invited Lecture** on “Some Recent Works in Analysis and Fabrication of Nanopatterned Structures for Photonic Application” delivered at 37th Optical Society of India Symposium and International Conference on Optics and Optoelectronics, ICOL-2014, Dehradun, 05 March 2014-08 March 2014.
11. **Invited Lecture** on “Exploring Extremities” delivered at TEQIP II sponsored Faculty Development Program on Advancement in Solid State Device, Feb 10-14, 2014 at RCC Institute of Information Technology, Kolkata
12. **Invited Lecture** on “Imaging beyond Conventional Microscope” delivered at National Workshop on Imaging, March 20-22, 2013 at Ballygunge Science College, University of Calcutta
13. **Session Chair** at National Conf. on Nanoscience & Nanotechnology, NANOTECH-2012, Sept 14-15, 2012, Saltlake, Kolkata
14. **Invited Lecture** delivered on Laser Physics at DST-SERC School on “Lasers, Optical Engineering and Applications”, 19 December 2011- 6 January 2012.
15. **Presented** papers at 35th Optical Society of India Symposium and International Conference on Contemporary Trends in Optics and Optoelectronics, Trivandrum, March 2011.
16. **Invited Lecture** at AICTE/MHRD sponsored Summer School on "Nanotechnology for Electronic & Photonic Applications", during July 3 - July 17, 2009, IIT, Kharagpur,
17. **Invited Lecture** at AICTE/MHRD sponsored winter school on "Nanoparticle- Science and Technology" during Jan 2-15, 2009 at the Dept. of Physics of National Institute of

Technology (NIT) Durgapur, 713209, West Bengal, India

18. **Invited Lecture** at AICTE/MHRD sponsored Winter School on "Optoelectronics: Materials & Devices", during December 29, 2008 to January 02, 2008 IIT, Kharagpur,
19. **Invited Lecture** at AICTE Sponsored National Seminar on "Nanotechnology & its application" during Sept 6-7, 2008 at Siliguri Institute of Technology, Darjeeling, West Bengal
20. **Attended** the QIP Workshop on "MEMS and Microsystem" during May 28-June 02, 2007 at Advanced Technology Centre, IIT Kharagpur.

Administrative & Technical Involvements:

- **Advisory Committee Member**, International Symposium on Optics (OSI-ISO) 2020, University of Hyderabad, Aug 17-19, 2020
- **Program Committee Co-Chair**, International Symposium on Optomechatronic Technologies, ISOT-2019, Goa, Nov 11-13, 2019.
- **Member, Technical Committee**, International Conference on Optics and Electro-Optics, ICOL2019, IRDE Dehradun, Oct 2019
- **Member, Technical Committee**, International Conference on Fiber Optics and Photonics, PHOTONICS 2018, IIT Delhi, Dec 2018
- **Member of Senate**, University of Calcutta, 2012 to March 2013, April 2015 to March 2017 and April 2019 to till date.
- **Head**, Department of Applied Optics & Photonics, University of Calcutta, April 2011 to March 2013, April 2015 to March 2017 and April 2019 to till date.
- **Co-Ordinator**, Integrated M.Tech-Ph.D Course in Astronomical Instrumentation, in collaboration with Indian Institute of Astrophysics, Bangalore from May 2017
- **Faculty Advisor**, Calcutta University Students Chapter of Optical Society of America from 2016
- **Member, Technical Committee**, 2nd International Conference on Microwave and Photonics (ICMAP - 2015), ISM Dhanbad, Dec 2015
- **Member, Technical Committee**, 3rd International Conference on Computer, Communication, Control and Information Technology (C3IT-2015) at Academy of Technology, West Bengal
- **Panelist**, IYL Regional Activities, SPIE Optics + Photonics, San Diego, USA, Aug 2014.
- **Member of Organizing Committee**, DST-SERC School, on "Lasers, Optical Engineering and Applications", 19 December 2011- 6 January 2012
- **Member, Technical Committee**, Conference on Frontiers of Optics & Photonics, FOP 11, IIT Delhi, Dec 2011
- **Convener**, 2nd International Conference on Trends in Optics & Photonics, ICONTOP-11, Dec 2011
- **Treasurer**, Optical Society of India, 2010 till date
- **Organising Committee Member** of International Conference on Trends in Optics & Photonics, March 1-4, 2009.
- **Head** of ECE Dept. of Techno India College, Saltlake from Feb 2007 to Sept 2008
- **University Station Supervisor** for West Bengal University of Technology (WBUT)

semester examinations during 2007-2008.

- **Head** of ECE Dept of Bengal Institute of Technology & Management (BITM), Santiniketan from Oct 2005 to Jan 2007
- **Member**, Organising Committee, International Conference on Fiber Optics and Photonics, PHOTONICS 2000, IIT Kharagpur, 2000

Appendix-A

Copyright:

S.K.Lahiri, J.C. Biswas, P. Ganguly, and **R. Chakraborty**, “An Integrated Optics Simulator based on Matrix Method for Lithium Niobate and other related substrates (IOSIMM)”, Registration No:- L-25346/2005, dated 26/11/2005.

List of Publications:

Journal Papers

1. Rajorshi Bandyopadhyay, Saikat Majumder and **Rajib Chakraborty**, “Silicon waveguide as virtual photonic bandgap structure array for realizing compact optical filters”, **Journal of Electromagnetic Waves and Applications**, Vol. 35, No.3, pp. 348-356, 2021
2. Soham Lodh, Rajib Ghosh and **Rajib Chakraborty**, “Studies on high refractive index amorphous TiO₂ thin film for possible improvement of light extraction efficiency in organic light emitting diodes”, **Optical Engineering**, Vol. 59, No. 10, 107104 (1-12) 2020
3. Rajib Ghosh and **Rajib Chakraborty**, “Superlensing property of 2-D glass photonic crystal”, **The European Physical Journal Applied Physics**, Vol. 92, No. 2, 20501, 2020.
4. Arnab Panda, Soumen Maiti, Kanik Palodhi and **Rajib Chakraborty**, “Effect of modified double-sided grating structures on efficiency enhancement of thin-film silicon solar cells”, **Applied Optics**, Vol. 59, No. 30, pp.9532-9539, 2020
5. Bapita Roy, Saikat Majumder and **Rajib Chakraborty**, "Design of low loss surface plasmon polariton waveguide and its use as hybrid tamm sensor with improved sensitivity", **Optical Engineering**, Vol. 59, No 1, 017108 (1-11), 2020
6. Animesh Halder, Soumendra Singh, Aniruddha Adhikari, Priya Singh, Probir Sarkar, Uttam Pal, Ria Ghosh, Deep Shikha, Yogendra Solanki, Madhu Agarwal, A. Gupta, **Rajib Chakraborty**, Tanusri Saha-Dasgupta, Ranjan Das, Samir Pal, "Selective and fast responsive sensitized micelle for detection of fluoride level in drinking water", **ACS Sustainable Chemistry & Engineering**, Vol. 7, pp. 16355-16363, 2019
7. Animesh Halder, Soumendra Singh, Aniruddha Adhikari, Shayantani Ghosh, Deep Shikha, Debajyoti Saha, **Rajib Chakraborty**, Asim Kundu, Santanu Kumar Tripathi, Samir Kumar Pal, "NaLiK, an indigenous device for rapid, reliable and simultaneous assessment of sodium, lithium and potassium for management of fluid balance and bipolar disorder in human subjects", **Journal of Analytical Atomic Spectrometry**, Vol.

34, No. 9, pp.1875-1881, 2019

8. Saikat Majumder, Bapita Roy and **Rajib Chakraborty**, "Segmented multimode to dual port slot couplers as compact optical sensors with improved sensitivity", **Journal of Modern Optics**, Vol. 66, No. 6, pp. 590-598, 2019
9. Rajib Ghosh, K K Ghosh and **Rajib Chakraborty**, "High resolution wide range pressure sensor using hexagonal ring and micromachined cantilever tips on 2D silicon photonic crystal", **Optics Communications**, Vol. 431, pp.93-100, 2019
10. Rajorshi Bandyopadhyay and **Rajib Chakraborty**, "Antisymmetric distributed bragg reflector as hybrid filter for compact integrated photonics", **Journal of Electromagnetic Waves and Applications**, Vol. 33, No. 1, pp.1-13, 2019.
11. Saikat Majumder and **Rajib Chakraborty**, "Multilayered photonic integration on SOI platform using waveguide-based bridge structure", **The European Physical Journal Applied Physics**, Vol. 81, p. 30501, 2018.
12. Rajorshi Bandyopadhyay and **Rajib Chakraborty**, "Transmission filters utilizing cavity resonances in bandgap-engineered monomaterials", **IEEE Photonics Technology Letters**, Vol. 30(2), pp. 189-192, 2018
13. Saikat Majumdar and **Rajib Chakraborty**, "Narrowband optical filter on Silicon- on-Insulator using directional coupler of slot and periodic segmented waveguide", **Journal of Modern Optics** Vol. 65(4), pp. 456-464, 2018
14. Subhendu Ghosh and **Rajib Chakraborty**, "Characterization of sol-gel derived grating coupler for sensing application", **Optik**, Vol. 148, pp. 201-208, 2017
15. Animesh Halder, Probir Kumar Sarkar, Poulomi Pal, Subhananda Chakrabarti, Prantar Chakrabarti, Debasis Bhattacharyya, **Rajib Chakraborty** and Samir Kumar Pal, "Digital camera based spectrometry for the development of point-of-care anemia detection on ultra-low volume whole blood sample", **IEEE Sensors Journal**, Vol. 17, No. 21, pp. 7149-7156, 2017
16. Rajorshi Bandyopadhyay and **Rajib Chakraborty**, "Realization of mode independent multichannel transmission filter by controlling the photon localization in symmetric cavities", **Optical and Quantum Electronics**, Vol. 49, 233 (1-15), 2017
17. Rajib Ghosh K. K. Ghosh and **Rajib Chakraborty**, "Efficient splitting of broadband LED light into narrowbands using superlensing effect and defects on its top 2D photonic crystal", **Optical and Quantum Electronics**, Vol. 49, p 213 (1- 16), 2017
18. Rajib Ghosh K. K. Ghosh and **Rajib Chakraborty**, "Design of electro-optic photonic crystal structure for subdiffraction imaging over the entire visible wavelength range", **Optical Engineering**, Vol. 55, No 12, 127101 (1-6), 2016
19. Bapita Roy and **Rajib Chakraborty**, "Semi analytical approach to study the loss characteristics of a symmetrical multilayered plasmonic waveguide", **Applied Optics**, Vol. 55, No. 7, pp.1765-1771, 2016
20. Nandini Basumullick, Palas Biswas, **Rajib Chakraborty**, Sushanta Chakraborty, Kamal Dasgupta and Somnath Bandopadhyay, "Fiber Bragg grating based accelerometer with extended bandwidth", **Measurement Science and Technology**, Vol. 27, p. 035008, 2016
21. Ranjit Das, Souvik Ghosh and **Rajib Chakraborty**, "Analysis of electric field for inclined electrodes and use of such configuration for generating tunable differential polarization phase", **European Physical Journal-Applied Physics**, Vol. 72, No. 3, p30501, 2015

22. Rajorshi Bandyopadhyay and **Rajib Chakraborty**, “Design of tunable transmission filter using one-dimensional defective photonic crystal structure containing electro- optic material”, **Optical Engineering**, Vol. 54, p.117105 (1-6), 2015
23. S. Bera, A. Haldar, S. Sarkar, M. Pal, **R. Chakraborty** and S. Jana, “Zinc-Indium-Oxide sol-gel thin film: surface patterning, morphology and photocatalytic activity”, **Surface Engineering**, Vol. 31, pp.492-501, 2015
24. R. Ghosh, A. Haldar, K.K. Ghosh and **R. Chakraborty**, “Further enhancement of light extraction efficiency from light emitting diode using triangular surface grating and thin interface layer”, **Applied Optics**, Vol. 54, No. 4, pp. 919-916, 2015
25. Ranjit Das, Souvik Ghosh and **Rajib Chakraborty**, “Dependence of effective internal field of congruent lithium niobate on its domain configuration and stability”, **Journal of Applied Physics**, Vol. 115, p 243101(1-5), 2014
26. **Rajib Chakraborty**, “Design of Tunable Asymmetric Directional Coupler Filter Using Periodically Segmented Ti:LiNbO₃ waveguides”, **Optik**, Vol. 125, pp.5816- 5819, 2014
27. **Rajib Chakraborty** and Reshmi Das, “Metal-assisted Porous silicon formation using solution deposition of nanoscale silver films”, **Journal of Optics**, Vol. 43, pp.350-354, 2014
28. Arpita Haldar, Susanta Bera, Sunirmal Jana, Kallol Bhattacharya and **Rajib Chakraborty**, “Development of a cost effective surface-patterned transparent conductive coating as top-contact of light emitting diodes”, **Journal of Applied Physics**, Vol. 115, p. 193108 (1-8), 2014
29. Ranjit Das and **Rajib Chakraborty**, “Interferometric measurement of internal field of lithium niobate without high voltage electric field poling”, **Optical Engineering**, Vol. 53, p.054105 (1-6), 2014
30. Saikat Majumdar and **Rajib Chakraborty**, “Semi-analytical method to study silicon slot waveguides for optical sensing application”, **Optical Engineering**, Vol. 52, No 10, 107102 (1-7), 2013
31. Ranjit Das and **Rajib Chakraborty**, “Enhanced Electro-Optic Property in LiNbO₃ by Electric Field Domain Inversion” **IEEE Photonics Technology Letters**, Vol. 25, No. 16, pp.1626-1629, 2013
32. **R. Chakraborty**, R. Mandal, R. Das, “Studies on the influence of Argon flow rate on PECVD grown Diamond-Like Nanocomposite film”, **Optik**, Vol. 124, pp. 6915– 6918, 2013
33. R. Ghosh, K.K. Ghosh and **R. Chakraborty**, “Narrow band filter using 1D periodic structure with defects for DWDM systems” **Optics Communication**, Vol. 289, pp.75-80, 2013.
34. **R. Chakraborty**, “Low temperature bonding of microstructured fiber sensors”, **Journal of Optics**, Vol. 39, No. 1, pp. 18-27, 2010.
35. **R. Chakraborty**, J.C. Biswas and S.K. Lahiri, “Studies on Erbium diffusion in LiNbO₃”, **Optical Engineering**., Vol. 47, No. 8, p. 084601, 2008.
36. **R. Chakraborty**, J.C. Biswas and S.K. Lahiri, “Fabrication and characterization of ridge structures in LiNbO₃ for optical components”, **Optical Engineering**., Vol. 43, No.8, pp.1923-1926, 2004.
37. **R. Chakraborty**, J.C. Biswas and S.K. Lahiri, “An analytical model for computing propagation constant of Ti:LiNbO₃ periodically segmented waveguides by effective-index based matrix method”, **Optical Engineering**., Vol. 42, pp. 2624- 2629, 2003.

38. **R. Chakraborty**, J.C. Biswas and S.K. Lahiri, "Analysis of directional coupler electro-optic switches using effective-index-based matrix method", **Optics Communication**, Vol. 219, pp. 157-163, 2003.
39. **R. Chakraborty**, P. Ganguly, J.C. Biswas and S.K. Lahiri, "Mode profiles in Ti:LiNbO₃ two-waveguide and three-waveguide couplers by effective-index-based matrix method," **Optics Communication**, Vol. 187, pp. 155-163, 2001.

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40. Soham Lodh and **Rajib Chakraborty**, "Low cost coating of high refractive index multilayer TiO₂ film for improved photonic applications", in *Frontiers in Optics / Laser Science*, B. Lee, C. Mazzali, K. Corwin, and R. Jason Jones, eds., OSA Technical Digest (Optical Society of America, 2020), paper JTU1A.12. (ISBN: 978-1- 943580-80-4)
41. Saikat Majumder, Amit Kr Jha, Aishik Biswas, Debasmita Banerjee, Dipankar Ganguly and **Rajib Chakraborty**, "Analysis of photonic spot profile converter and bridge structure on SOI platform for horizontal and vertical integration", Proc **SPIE**, Vol. 10382, p.1038203, 2017
42. Rajib Ghosh Kamal Kanti Ghosh and **Rajib Chakraborty**, "Generating multiple narrowband sources from a broadband LED using defects in its top 2D photonic crystal vertical stack", Proc. **SPIE**, Vol. 9654, International Conference on Optics and Photonics 2015, 96541I (June 15, 2015).
43. Saikat Majumder, Amarnath Ghosh, Bapita Roy and **Rajib Chakraborty**, "Experimental verification of MMI by singlemode-multimode-singlemode and multimode-singlemode structures", Proc. **SPIE** Vol. 9654, International Conference on Optics and Photonics 2015, 96541Q (June 15, 2015).
44. Ranjit Das, Souvik Ghosh and **Rajib Chakraborty**, "Tunable differential polarization phase shifter using electro-optic property of trapezoidal lithium niobate crystal", Proc. **SPIE** Vol. 9654, International Conference on Optics and Photonics 2015, 96541M (June 15, 2015);
45. Rajorshi Bandyopadhyay and **Rajib Chakraborty**, "Design of multistack Fabry- Perot structure with defect as tunable transmission filter for CWDM using FDTD method", Proc. **SPIE** Vol. 9654, International Conference on Optics and Photonics 2015, 96541W (June 15, 2015);
46. S. Maiti and **R. Chakraborty**, "Study of the optical field profile of a silicon rib waveguide in p-i-n configuration," in *13th International Conference on Fiber Optics and Photonics*, OSA Technical Digest (online) (Optical Society of America, 2016), paper W3A.83.
47. Bapita Roy, Saikat Majumder and **Rajib Chakraborty**, "Study of surface plasmon polariton wave through a metallic waveguide by matrix method", in *12th International Conference on Fiber Optics and Photonics*, OSA Technical Digest (online) (Optical Society of America, 2014), paper M4A.53. (ISBN: 978-1-55752- 882-7)
48. R. Ghosh, K.K. Ghosh and **R. Chakraborty**, "Further enhancement of directional light extraction efficiency of LED in infrared region using triangular nanophotonic crystals of different composite materials" in *12th International Conference on Fiber Optics and Photonics*, OSA Technical Digest (online) (Optical Society of America, 2014), paper M4A.77. (ISBN: 978-1-55752-882-7)

49. Nandini Basumallick, Palas Biswas, **Rajib Chakraborty**, Kamal Dasgupta and Somnath Bandyopadhyay, "Fiber bragg grating accelerometer for non-stationary and multi-frequency signal detection" in *12th International Conference on Fiber Optics and Photonics*, OSA Technical Digest (online) (Optical Society of America, 2014), paper T3A.8. (ISBN: 978-1-55752-882-7)
50. **Rajib Chakraborty** and Saikat Majumder, "Study of characteristics of MMI devices using matrix approach", Proc. **SPIE**, Vol. 9200, p. 92000I(1-7), 2014
51. S. Majumdar and **R. Chakraborty**, "A semi-analytical tool to design high-index contrast slot waveguides", Paper No.: FTu3A.20, 2013 Frontiers in Optics/Laser Science XXIX (FiO/LS) Meeting, Oct 06-10, 2013, Orlando, USA (ISBN: 978-1- 55752-987-9)
52. **R. Chakraborty**, P. Ganguly, S. Das, J.C. Biswas and S.K. Lahiri, "Integrated optical waveguides in LiNbO₃: modelling and experimental analysis," Proc. **SPIE**, Vol. 4417, pp. 278-285, 2001.
53. S.K.Lahiri, J.C. Biswas, P. Ganguly, and **R. Chakraborty**, "Effective Index based matrix method: a computationally simpler alternative to BPM for integrated Optics design", Proc. **SPIE**, Vol. 3666, pp. 175-185, 1999.
54. B. Samanta, B.K. Das, **R. Chakraborty**, P. Ganguly, J.C. Biswas and S.K. Lahiri, "Fabrication and Characterization of Erbium Doped Titanium indiffused Lithium Niobate Waveguides for Integrated Optic Amplifier", Proc. **SPIE**, Vol. 3666, pp. 343-347, 1999.

Conference Publications

55. Sarad Subhra Bhakat, Arnab Panda, Payel Ghosh, **Rajib Chakraborty**, "Bio Sample Detection Using Photonic Band Gap Sensors", Proc. Intl. Symposium on Optomechatronic Technologies, ISOT-2019, Goa, Nov 11-13, 2019.
56. **Rajib Chakraborty**, "Characteristics of one dimensional photonics structures having different types of sequences", Proc. Intl. Conf. of Optics & Electro-Optics, ICOL-2019, IRDE, Dehradun, Oct 19-22, 2019.
57. Payel Ghosh, Sarad Subhra Bhakat, Arnab Panda, Rajorshi Bandyopadhyay, **Rajib Chakraborty**, "Virtual photonic bandgap structure array using TiO₂ rib waveguide for designing optical filters", Proc. Intl. Conf. of Optics & Electro- Optics, ICOL-2019, IRDE, Dehradun, Oct 19-22, 2019.
58. Arnab Panda, Soumen Maity, Kanik Palodhi, **Rajib Chakraborty**, "Reduction of degradation of solar cells using one dimensional photonic crystal based UV filters" Proc. Intl. Conf. of Optics & Electro-Optics, ICOL-2019, IRDE, Dehradun, Oct 19- 22, 2019.
59. Sarad Subhra Bhakat, Payel Ghosh, Soham Lodh and **Rajib Chakraborty**, "Development of patterned Sol-Gel derived TiO₂ structures for photonic applications", in 14th International Conference on Fiber Optics and Photonics, (PHOTONICS 2018), Dec 2018
60. Sarad Subhra Bhakat, Payel Ghosh, Soham Lodh and **Rajib Chakraborty**, "Fabrication and characterization of sol-gel derived TiO₂ grating structure for photonic applications", Paper ID: 149, Intl. Symposium on Optics (*OSI-ISO* 2018), 19-22 Sept., 2018.
61. Subrata Karmakar, Rajorshi Bandyopadhyay and **Rajib Chakraborty**, "Dual tunable multicavity resonator based photonic bandgap structure as hybrid optical filter", Paper ID: 80, Intl. Symposium on Optics (*OSI-ISO* 2018), IIT Kanpur, 19-22 Sept., 2018.
62. Arnab Panda, Soumen Maiti, **Rajib Chakraborty** and Kanik Palodhi, "Increment of light absorption in periodic structures introducing metallic nano-layer for solar cell

- applications", Paper ID: 184, Intl. Symposium on Optics (*OSI-ISO* 2018), IIT Kanpur, 19-22 Sept., 2018.
63. Bapita Roy, Saikat Majumder and **Rajib Chakraborty**, "A theoretical study of the loss characteristics of a multilayer Metal/Dielectric/Metal Tamm plasmon waveguide", Paper ID: OP72, Intl. Conf. on Advances in Optics and Photonics (ICAOP 2017), Guru Jambheshwer University of Science & Technology, Hisar, 23-26 Nov, 2017 (ISBN: 978-93-84871-109)
 64. **Rajib Chakraborty**, "Manipulating light using photonic crystals", Invited Paper, International Topical Meeting on Applied and Adaptive Optics, INTOPMAA-17 Aug 11-13, 2017 at IIST, Trivandrum, India.
 65. **Rajib Chakraborty** and Ranjit Das, "Investigation of properties of lithium niobate by non-invasive technique", Invited Paper, Intl. Conf. on Light and Light based Technology (ICLLT), Tezpur University, 26-28 Nov, 2016
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