Curriculum Vitae

Dr. Rajeev Ranjan

Associate Professor

Department of Physics

National Institute Of Technology (N.I.T.), Jamshedpur, India

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Ph.D. Thesis Topic: Investigation on Non-Imaging Uses Of Holographic Optical Elements

Research Interest: Holography, Energy Materials, Smart Materials, Nanomaterials

International Journal:

1. Md Soaib Khan, Sweta Sharma and **Rajeev Ranjan***, "Transport properties of rare earth doped perovskite material for energy storage devices", accepted for publication in International Journal of Nanoparticles
2. Md Soaib Khan, Sweta Sharma, Yogesh Kumar, **Rajeev Ranjan***, "Dielectric Study of Rare earth doped perovskite material as an alternative source of energy", accepted for publication in International Journal of Nanoparticles
3. Sweta Sharma, Md Soaib Khan, Yogesh Kumar, **Rajeev Ranjan***, "Quantum dot solar cell: an emerging nanomaterial-based device in the solar industry", Int. J. Nanoparticles, Vol. 13, No. 2, pp.121–133 (2021)
4. Sweta Sharma, Md Soaib Khan, Yogesh Kumar, **Rajeev Ranjan***, "Conduction mechanism in rare earth doped perovskite material through impedance analysis", Bull Mater Sci 44, 206 (2021)
5. **R. Ranjan**, Abhijit Ghosh, A.K. Nirala, H.L. Yadav: "Tuning of suitable solar spectrum onto photo catalytic materials of matched band gap using optical engineering", Optica Applicata Vol.45 (2015), No. 2, pp. 237-247.
6. Abhijit Ghosh, **R. Ranjan**, A.K. Nirala & HL Yadav, "Design and analysis of processing parameters of hololenses for wavelength selective light filters," Optik, 125, 2191–2194 2014.
7. **R. Ranjan**, Abhijit Ghosh & H. L. Yadav, "Dependence of angular selectivity of thick phase transmission hologram recorded in dichromated gelatin film on processing parameters", J. Opt (Springer), 41(1) 65–69, 2012.

Book Chapters:

1. Nitesh Kumar, Jagriti Mishra, **Rajeev Ranjan***, "Modern advancements and application of GaN based materials". Advances in Power Systems and Energy Management, Lecture Notes in Electrical Engineering (Springer Nature), Chapter30, pp.311-317, Jan 2021. https://doi.org/10.1007/978-981-15-7504-4
2. Divya Pandey, **Rajeev Ranjan,** Rishabh Raj, Anukriti Tyagi, R. Navamathavan; Topical Survey on Daylighting System, Springer Proceedings Phys., Vol 194 (2017), Bhattacharya et al(Eds): Advances in Optical Science and Engineering, 978-981-10-3907-2, 421758_1_En.

International Conference:

1. Md Soaib Khan, Sweta Sharma, Ashok Srivastava, **Rajeev Ranjan***, "Gd and Nd doped perovskite – Potential material for sustainable energy" accepted for 2021 IEEE First International Conference on Emerging Trends in Industry 4.0 (2021 ETI 4.0) held at O. P. Jindal University, Raigarh, Chhattisgarh, India during 19 - 21, May 2021

2. Md Soaib Khan, Sweta Sharma, **Rajeev Ranjan***, "Supercapacitor electrode with Nano crystalline metal oxide for high capacitance and enhanced cyclic performance", 2nd Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2021) May 14-15, 2021.

3. Sweta Sharma, Md Soaib Khan, **Rajeev Ranjan***, "Eco-Friendly and Sustainable Energy Storage in Supercapacitors using Bio waste Materials", 2nd Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2021) May 14-15, 2021.

4. Sweta Sharma, **Rajeev Ranjan***, "Perovskite thin solar cell; a promising nanomaterial for alternative energy sources," Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020), pp53, 9th-10th July,2020.

5. Jagriti Mishra, Nitesh Kumar, Rajeev Ranjan, "Implementation of Holographic filters to day lighting Optical Fibers", 2nd International Conference on Emerging Trends and Advances in Electrical Engineering and Renewable Energy (ETAEERE2020), 5th-6th March 2020

6. Nitesh Kumar, Jagriti Mishra, Rajeev Ranjan, "Modern advancements and application of GaN based materials". 2nd International Conference on Emerging Trends and Advances in Electrical Engineering and Renewable Energy (ETAEERE2020), 5th-6th March 2020

7. Sweta Sharma, Rajeev Ranjan, " Perovskite thin solar cell; a promising nanomaterial for alternative energy sources," Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020), pp53, 9th-10th July,2020

8. Rishabh Raj, Richa Dubey, Pratik Patwari, Rangaswamy Navamathavan, **Rajeev Ranjan,** "Investigation of GaN- based light-emitting diodes on various substrates: Proceedings SPIE OPTO Gallium Nitride Materials and Devices XIII, San Franciso, 27 th Jan- 1 st Feb 2018. doi: 10.1117/12.2289057

9. Divya Pandey, **Rajeev Ranjan,** Rishabh Raj, Anukriti Tyagi, R. Navamathavan; Topical Survey on Daylighting System, Springer Proceedings Phys., Vol 194 (2017), Bhattacharya et al(Eds): Advances in Optical Science and Engineering, 978-981-10-3907-2, 421758_1_En.

10. Rishabh Raj, V. Vignesh, Anukriti Tyagi, Purushottam, **Rajeev Ranjan**, R. Navamathavan, "Controlled Development of Cuprous Oxide Thin Film for Optoelectronic Applications", Proceedings of International OSA Networks of Students (IONS-2016), ISM Dhanbad, September 7-10, 2016, pp55-56.

11. Rishabh Raj, Sonika Obheroi, V. Vignesh, **Rajeev Ranjan**, R. Navamathavan: Design and Analysis of Holographic Solar Concentrator for semiconductor electrodes for photoelectrochemical hydrogen production device, Published in Proceedings of IONS Karlsrushe, during 26th -29th June 2015.

12. Rishabh Raj, R. Navamathavan, Yong-Ho Ra, and **Rajeev Ranjan** : Uniaxial InGaN/GaN multiple quantum well heterostructure nanowires for light emitting diodes, Proceedings of 39th International Conference of Optics & Photonics (ICOP 2015), Kolkata, jointly organised by Optical Society of India (OSI) & University of Calcutta, 20-22 Feb 2015, pp25.
13. Rishabh Raj, R. Navamathavan, and **Rajeev Ranjan**: Development of hybrid white light technology, Proceedings of 39th International Conference of Optics & Photonics (ICOP 2015), Kolkata, jointly organised by OSI & University of Calcutta, 20-22 Feb 2015, pp32.

14. **Rajeev Ranjan**, H.L. Yadav, Rishabh Raj and R. Navamathavan: Design and analysis of holographic optical element for daylighting the interior of building, Proceedings of 39th International Conference of Optics & Photonics (ICOP 2015), Kolkata, jointly organised by Optical Society of India (OSI) & University of Calcutta, 20-22 Feb 2015, pp30.

15. **R. Ranjan**, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, “Designing of Holocons for Semiconductor Electrodes of PEC Device,” International Conference on optics & optoelectronics (ICOL-2014) held at IRDE Dehradoon, 05-08, March 2014, pp 125.

16. **R. Ranjan**, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, “Use of holographic optical element as UV & IR for hygienic and comfortable daylighting of interior of buildings”, Proceeding of the International Congress on Innovations in Science, Technology and Management (ISTM 2013), held at Ranchi, India, June 3-4,2013,pp 18-19.

17. **R. Ranjan**, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, “Optimization of Processing Parameters of Holographic Concentrator for Maximum Efficiency Operation in PV System”. Latest Trends in Renewable Energy and Environmental Informatics, 7th WSEAS International Conference on Renewable Energy Sources (RES '13), held at Kuala Lumpur, Malaysia, April 2- 4, 2013 pp. 50-53

18. Abhijit Ghosh, **R. Ranjan**, A.K. Nirala & H.L. Yadav, “Design and analysis of wavelength selective wide acceptance angle holographic concentrator for PV application”, Latest Trends in Renewable Energy and Environmental Informatics, 7th WSEAS International Conference on Renewable Energy Sources (RES '13), held at Kuala Lumpur, Malaysia, April 2- 4, 2013 pp. 17-20.

19. Abhijit Ghosh, **R.Ranjan**,H.L.Yadav , “Application of Thick Phase Transmission Hologram Recorded in Dichromated Gelatin Film for Maximum Data Storage”. Proceedings of XXXVI OSI Symposium, held at IIT Delhi, December 3- 5, 2011, pp 210.

20. Abhijit Ghosh, A.Khan, **R.Ranjan**, N.R.Chakraborty, H.L. Yadav, "Application of Holographic Optical Element as a Dispersive Concentrating System for Photovoltaic Power Generation", Proceedings of International Conference on "Fibre Optics and Photonics", held at IIT Guwahati, December 12-15, 2010, pp 463.

21. **R.Ranjan**, A.Khan, N.R.Chkraborty , H.L.Yadav, "Use of Holographic Lenses Recorded in Dichromated Gelatin Film for PV Concentrator applications to minimize Solar Tracking", Proceeding of the 4th IASME/WSEAS International Conference (EE'09),held at Cambridge, UK, February 24-26,2009,pp. 49-52.

National Conference:

1. **Rajeev Ranjan**, Rishabh Raj, Subhasree S, R.Navamathavan: Nano-Scale Photosensitive Particles for Recording Angular Selective Holographic Optical Elements, Proceedings of 2nd National Conference On Materials For Energy Conversion And Storage (MECS-2016) Pondicherry University March 11-13, 2016, pg. 126.

2. Rishabh Raj, **Rajeev Ranjan**, Chhavi Gupta, R.Navamathavan: Daylighting Interiors of Buildings, Proceedings of 2nd National Conference On Materials For Energy Conversion And Storage (MECS-2016) Pondicherry University March 11-13, 2016, pg. 95.

3. Rishabh Raj and **Rajeev Ranjan**: The design, fabrication, and photocatalyticutility of TiO_2- based nanostructure, Proceedings of 19th National Seminar Crystal Growth, VIT Vellore ,12-14th March 2015, pp 40.

4. Rishabh Raj, R. Navamathavan, **Rajeev Ranjan**, and Abhishek Parida: Fuel of the future: Hydrogen, Proceedings of National Conference On Materials For Energy Conversion And Storage (NCMECS-2015), VIT Chennai, 19-21st March 2015, pp 82.

5. Rishabh Raj, R. Navamathavan, **Rajeev Ranjan,** and H.L.Yadav: Solar water splitting to generate hydrogen fuel, Proceedings of National Conference On Materials For Energy Conversion And Storage (NCMECS-2015), VIT Chennai, 19-21st March 2015, pp 63.

6. **R. Ranjan**, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, "Design and Analysis of Holographic Wavelength Filter" National Conference on Advances in Laser and Spectroscopy (ALS-2012), held at ISM Dhanbad, November 1- 3, 2012, pp. 72-74

7. Abhijit Ghosh**, R.Ranjan**, Kingshuk Bose, H.L.Yadav, "Importance of Nano Level Photo-sensitive Particles for Recording Highly Angular Selective Holographic Optical Elements", Proceedings of Condensed Matter Days 2012- A National Conference On Condensed Matter Physics, held at B.I.T. Mesra, Ranchi, India, August 29-31,2012, pp. 133-134.

TEACHING EXPERIENCE: ~26 years

Position Held	Institution	From	To
Lecturer	NIT Jamshedpur	26-03-1996	25-03-2002
Lecturer Sr. Scale	NIT Jamshedpur	26-03-2002	25-03-2007
Lecturer SG	NIT Jamshedpur	26-03-2007	25-03-2010
Redesignated as Associate Professor	NIT Jamshedpur	26-03-2007	Till Date

OTHER RELEVANT INFORMATION

Sl No.	Position held	Period	
		From	To
1.	Prof. In-Charge, ED Cell	April, 2001	02.12.2013
2.	Prof. In-charge, CDS	2007	2009
3.	Prof. In-charge, FACES	2007	2009
4.	Member, UG Admission Committee	2009	2011

Sl No.	Activity	Period	
		From	To
1.	P/I, Microwave lab	1999	Till date
2.	Member, DPC	1996	Till date
3.	Member, DAC for Selection of candidate for Ph.D. Programme	01.08.2008	31.07.2009
4.	P/I , Store and office of the Dept.	22.08.2016	Till date
5.	Faculty Advisor PG	2015	2017

1. **Conference Chair**, for 2nd Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2021) May 14-15, 2021.

2. **Conference Chair**, for 1st Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020) 9th-10th July,2020

3. **Best Paper Award** for "Gd and Nd doped perovskite – Potential material for sustainable energy" 2021 IEEE First International Conference on Emerging Trends in Industry 4.0 (2021 ETI 4.0) held at O. P. Jindal University, Raigarh, Chhattisgarh, India during 19 - 21, May 2021 (SCOPUS)

4. **Best Paper Award** for "Eco-Friendly and Sustainable Energy Storage in Supercapacitors using Biowaste Materials," 2nd Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2021) May 14-15, 2021.

5. **Best Paper Award** for "Perovskite thin solar cell; a promising nanomaterial for alternative energy sources," Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020), pp53, 9th-10th July,2020

6. **Member Program committee** OPAL' 2018 (http://www.opal-conference.com)

7. Reviewer of WSEAS since 2016.

8. **Chaired the Session** of *the 7th WSEAS Int. Conf on* Renewable Energy,

2-4 Apr, 2013, Kuala Lumpur Malaysia, RES Session: Solar Cells and Photovoltaic Session I.

9. **Member of Advisory Board of International Confress on Innovation in Science, Technology and Management** organized by Rai University, June 3-4,2013.

10. Delivered an **Invited Talk on Electrodynamics** organized by SPIE Student Chapter VIT Chennai on 11/10/2017.

11. **Judge for the All India Inter Atomic Energy Central Schools'** Science, Social Science, Mathematics and Teaching Aids Exhibition (National Level), organized at Atomic Energy Central School, Narwapahar on 12/08/2016.

12. **External Examiner** for PG Department of Tata College Chaibasa & Jamshedpur Co-operative College (Kolhan University) for the year 2014 & 2016.

13. Guided and supervised two students of B.Tech (Hons.) of Priyadharshini College of Engineering and Architecture, Nagpur, in vocational training programme on Microwave topic- "Fabrication of Magic Tee" from 5th June to 25th June, 2003.

14. **Co-ordinator** of the Programme organized for practicing Engineers' from Industries on the topic- "Corrosion of Metals and its Prevention Techniques" sponsored by Small Industries Development Bank of India (SIDBI) from March, 19-21,2002.

15. Assistant Warden from May, 1996 to July, 2003.

16. **Prof. In-charge of GUNJAN- 2000**, a National level Cultural Festival which was organized for the first time in RIT, Jamshedpur.

17. **Prof. In-charge of UTKARSH-2006,2007 & 2010**, a National level Cultural Festival.

18. Participated as an Institute representative in the Placement Officer Meet organized by Cognizant at Chennai, in February, 2007.

19. Course **Director-cum-Organizer** of two Entrepreneurship Awareness Camp sponsored by Ministry of Science & Technology, Government of India, held at:-

a) Govt. Polytechnic College, Adityapur, March,2002

b) Regional Institute of Technology, Jamshedpur from 25-27 March, 2002.

Short Term Course/Workshop Attended

Sl. No.	Name of the Programme	Place	Duration & Date	Topic
1.	AICTE- Induction Training Programme organized by Mechanical Engineering Department	Jadavpur University - Kolkata	03- weeks programme from 27th July-14th August, 1999	Manufacturing Engineering
2.	S.E.R.C.-School	Satyendra Nath Bose National Centre for Basic Science, Salt Lake, Kolkata	03- weeks programme from 1st Nov-20 Nov, 1999	Electronic Structure and physics of materials
3.	AICTE- Induction Training Programme organized by Mechanical Engineering Department	RIT Jamshedpur	03 -weeks programme from 25th Dec,2000- 13th Jan,2001	Teacher's Role in Engineering Education
4.	AICTE/ISTE-STTP: 2001-2002 organized by Electrical Engineering Department	RIT Jamshedpur	02- weeks programme from 24th Dec,2001- 6th Jan,2002	Some Aspects of Modelling and Simulation of Electrical System
5.	TEQIP sponsored Short Term Training programme organized Department of Physics	NIT Jamshedpur	17th July- 19th July, 2006	Metrology for Engineering Instiution
6.	TEQIP sponsored Short Term Training programme at NIT Jamshedpur	NIT Jamshedpur	01-week programme from 2nd Jan-8th Jan, 2007	Programming & Data Structure
7.	Short Term Training Programme organized by Mechanical Engineering Department	NIT Jamshedpur	01 week programme From 10-14th April,2008	Effective Teaching & Learning

8.	Sponsored Research, Industrial Consultancy & Continuing Education Cell (SRICCE) organized by Mechanical Engineering Department	NIT Rourkela	01-week programme from 5th July -9th July, 2008	Fundamentals of Cryogenic Engineering
9.	National Workshop on Sponsored Research, Industrial Consultancy & Continuing Education Cell (SRICCE) organized by Mechanical Engineering Department	NIT Rourkela	10th July-11th July, 2008	Helium Cryogenic
10.	Workshop on Silicon Photonics at 39th International Conference of Optics & Photonics (ICOP 2015), Kolkata, organized by Department of Applied Physics & Photonics	University of Calcutta	19th Feb 2015	Silicon Photonics