



*Dr. Indira Priyadarshini Tripathi*

*Assistant Professor*

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**Objective:** *To accept all challenges and assignments with responsibility and accomplish them with sincerity by well-coordinated teamwork, eventually achieving the entrusted targets, which help me, grow progressively in my field.*

## **Academic Experience**

- Worked as an Assistant Professor at Department of Applied Sciences, The NorthCap University (NCU), (formerly ITM University), Gurugram, since 09 January, 2018 to 06 March, 2019.

### **Courses Taught:**

1. At UG level: Engineering Mathematics I, II & III, Operations Research, Linear Programming and its Applications, Linear Algebra and Statistical Analysis.
2. At PG level:- Ordinary Differential Equation, Mathematical Programming, Number Theory.

### **Responsibilities:**

1. Departmental and Administrative responsibilities.
2. Moderation Co-ordinator of all subjects of Mathematics (UG & PG).
3. Co-coordinator in organizing faculty development program at NCU.

### **Projects Supervised:**

1. M.Sc Dissertation:- 04 Completed (2 from SVNIT and 2 from The Northcap University)
2. B.Sc Dissertation:- 02 Completed.

- Worked as a **Teaching Assistant** in 30 hrs online certification course “**Mathematical Methods and its Applications (NPTEL)**” organized by IIT Madras, sponsored by MHRD, New Delhi for the course period Jan 2017-April 2017 and received certificate of appreciation.
- **Reviewer of the following journals:**
  1. Optimal Control Applications and Methods
  2. Annals of Operations Research
  3. European Journal of Pure and Applied Mathematics
  4. Maejo International Journal of Science and Technology

## **Research Experience**

- Worked as a **Post-Doctoral Researcher** at **The University of Electronic Science and Technology of China, Chengdu**, from April 2019 to September 2019.

## **Research Interests**

- Mathematical Programming Problems, Non-smooth Optimization, Fractional Programming problems, Interval-Valued Optimization, Generalized Convexity, I-fuzzy/Fuzzy Optimization, Variational Control Problems etc.

## **Academic Qualifications**

- **2013 - 2018: Doctor of Philosophy (Ph.D.) - Mathematics**  
**Thesis Title-** On efficiency and duality for some vector optimization problems  
Pre-PhD Course Work CGPA - 9.14/10  
Institute – Indian Institute of Technology Roorkee,
- **Master of Science (M.Sc) - Mathematics**  
University - Gauhati University, Gauhati, CGPA- 9.8/10
- **Bachelor of Science (B.Sc)- Mathematics (Honours)**  
College- Kokrajhar Govt. College (Under Gauhati University), India, Aggregate - 76.6% (Honours)
- **Senior Secondary**, Kokrajhar Govt. College , Aggregate - 71%
- **Secondary**  
School:- B. P. C. M Babyland English Medium High School, Aggregate - 81%

**Achievements**

- **GATE-2013** cleared with **ALL INDIA RANK 91**.
- Stood second position in **M.Sc. Mathematics** in **GAUHATI UNIVERSITY, GAUHATI** in the year 2012.
- **GOLD MEDALIST** in graduation (**B.Sc Mathematics**) under **GAUHATI UNIVERSITY** in the year 2010 and received **CERTIFICATE OF APPRECIATION**.

**List of Publications****Paper Published in SCI/International Journals (11)**

1. Indira P. Debnath and Nisha Pokharna, (2021): [ON OPTIMALITY AND DUALITY IN INTERVAL-VALUED VARIATIONAL PROBLEM WITH B-\(p,r\)-INVEXITY](#), *RAIRO-Operations Research*, Vol. 55 (2021), No. 3, pp. 1909 - 1932, (EDP Sciences Publication).
2. Indira P. Debnath and X. Qin, (2021): [ROBUST OPTIMALITY AND DUALITY FOR MINIMAX FRACTIONAL PROGRAMMING PROBLEMS WITH SUPPORT FUNCTIONS](#), *J. Nonlinear Funct. Anal.* (2021), Article ID 5, (Mathematical Research Press (Mathres)).
3. **Indira P. Debnath** and S. K. Gupta, (2020): The Karush-Kuhn-Tucker conditions for multiple objective fractional interval valued optimization problems, *Rairo-Operations Research*, Vol. 54, No. 4, pp. 1161-1188, (EDP Sciences Publication, Impact Factor:- 0.639).
4. **Indira P. Debnath** and S. K. Gupta, (2019): Exponential membership function and duality gaps for I-fuzzy linear programming problems, *Iranian Journal of Fuzzy Systems*, Vol. 16, No. 2, pp. 147-163, (University of Sistan and Baluchistan Publication, Impact Factor:- 1.496)
5. **Indira P. Debnath** and S. K. Gupta, (2017): Efficiency and duality for a vector of quotients of curvilinear functional on the first-order jet bundle, *Optimal; Control Applications and Methods*, vol. 0, pp 1-12 (Wiley Publication, Impact Factor- 1.452 )
6. **Indira P. Debnath** and S. K. Gupta, (2017): Higher-Order duality relations for multiobjective fractional problems involving support functions, *Bulletin of Malaysian Mathematical Sciences Society*, Vol 42, No. 3 pp1255-1279 (Springer Publication, Impact Factor:- 0.867)
7. **Indira P. Debnath** and S. K. Gupta, (2017): Duality for the class of a multiobjective problem with support functions under  $K - G_f$  invexity assumptions, *Bulletin of Iranian Mathematical Society*, Vol 43, pp. 2233– 2258, (Iranian Mathematical Society Publication, Impact Factor:- 0.313 )
8. **Indira P. Debnath**, S. K. Gupta and S. Kumar, (2015): Symmetric duality for a higher-order nondifferentiable multiobjective programming problem, *Journal of Inequalities and Applications*, Vol 3, (2015) pp.1-12,(Springer Publication, Impact Factor:- 1.136)

9. **Indira P. Debnath**, S. K. Gupta and D. Dangar, (2018): Remarks on duality for second order minimax fractional programming with  $B-(p,r)$ -invex functions, Opsearch, Vol. 55, No. 1, pp. 196-201, (Springer Publication)
10. S. K. Gupta, R. Dubey and **Indira P. Debnath**, (2017): Second –order multiobjective programming problems and symmetric duality relations with  $G_f$ -bonvexity, Opsearch, Vol. 54, No. 2, pp. 365-387, (Springer Publication)
11. **Indira P. Debnath**, S. K. Gupta and I. Ahmad, (2016): A note on strong duality theorem for a multiobjective higher order nondifferentiable symmetric dual programs, Opsearch, Vol. 53, No. 1, pp. 151-156, (Springer Publication)

### **Papers Published in International Conferences Proceedings (01)**

1. **Indira P. Debnath** and S.K. Gupta, On Duality with Support Functions for a Multiobjective Fractional Problem: in Proceedings of 5<sup>th</sup> International Conference on Operations Research and Enterprise Systems (ICORES 2016) , Rome, Italy, 23-25 February, 2016, pp. 115-121. SCITEPRESS – Science and Technology Publications, Lda.

### **Publications in Book Chapter (01)**

1. **Indira P. Debnath** and S. K. Gupta (2018), Necessary and Sufficient Optimality conditions for Fractional Interval-Valued Optimization Problem, **Decision Science in Action**, pp. 155-173, Springer.

### **Membership of Professional Societies**

- Life Member of “Working Group of Generalized Convexity”

### **Workshop/STTP/Conferences Organized**

- Organized “**Online Short-Term Training Programme (STTP) on Computational Software (MATLAB and MATHEMATICA)**” during 5<sup>th</sup> -9<sup>th</sup> Oct 2020 at SVNIT Surat.
- Organized “**One-Week Short Term Course on Academic Writing Using LATEX**” during 4<sup>th</sup> - 8<sup>th</sup> Jan 2021 at SVNIT Surat.
- Organized “**2<sup>nd</sup> Short Term Course (STC) on Computational Software (MATLAB and MATHEMATICA)**” during 17<sup>th</sup>-21<sup>st</sup> May 2021 at SVNIT Surat.

- Organized “**Virtual International Conference on Physical Sciences (ICPS-2021)**” jointly with Department of Physics and Department of Chemistry as an **Organizing Secretary** during 5<sup>th</sup> -6<sup>th</sup> Feb 2021 at SVNIT Surat.

**Workshop/Conferences Attended:**

- Attended a **Virtual International Conference on Soft Computing, Optimization Theory and Applications** held at *Birla Institute of Technology Mesra*, during 26<sup>th</sup>-27<sup>th</sup> March 2021 organized and sponsored by Department of Mathematics.
- Attended one week Short-term training program on, “**Research Methodology and Pedagogy**”, organized by the *Sardar Vallabhbhai National Institute of Technology, Surat* under TEQIP- III, during 18-22 November, 2019.
- Attended and presented a paper entitled “**Necessary and sufficient optimality conditions for fractional interval valued optimization problems**” in The International Conference on “The Recent Trends on Operations Research and Statistics” held at *Indian Institute of Technology Roorkee*, during 28-30 December, 2017.
- Attended an workshop on “**Nonlinear Analysis and its Application to Optimization Techniques**” held at *Indian Institute of Technology Dhanbad, Dhanbad* during 18<sup>th</sup> August- 22<sup>nd</sup> August, 2017.
- Presented a paper entitled “**The KKT conditions for fractional interval valued multiobjective optimization problems**” on “XII International Symposium on Generalized Convexity and Monotonicity” held in **Hajdúszoboszló, Hungary**, during 27<sup>th</sup> August- 2<sup>nd</sup> September, 2017.
- Attended an workshop on “**Applied Stochastic Models and Optimization (ASMO-17)**” held at *Indian Institute of Technology Roorkee, Roorkee* during 26-27 May, 2017.
- Attended an Workshop on “**AIS Optimization 2016**” organized by National Center for Mathematics held at *Indian Institute of Technology Bombay, Bombay* during May 9-21, 2016.
- Presented a paper entitled “**On Duality with Support Functions for a Multiobjective Fractional Problem**” in “5<sup>th</sup> International Conference on Operations research and Enterprise Systems”, held in **Rome, Italy** during February 23-25, 2016.
- Attended an “**Advance Level Workshop on Variational Analysis and Optimizarion(VAO) 2015**” organized by NPDE held at *Indian Institute of Technology Gandhinagar, Gujarat* during March 2-8, 2015.
- Presented a paper entitled “**Duality for a symmetric nondifferentiable multiobjective**

programming problems under  $G_f$  - invexity assumption” on “International Conference on Operational Research (Theme: OR BIG DATA & ANALYTICS)” held at *Shree Venkateswara University, Tirupati, Andhra Pradesh* during December 1–3, 2014.

- Attended a “Winter School and Conference on Algebra and Number Theory” organized by *NBHM, DST & UGC-SAP (DRS-I)*, held from December 23-29, 2011 at *Tezpur University, Tezpur, Assam*.

## Extra-Curricular Activities

- Performed singing and dancing on the cultural events held in the International Conferences at IIT Roorkee and also in the Hostel programs in the institute and got Certificate of Appreciation.
- Participated in different programmes in “*VARSHITY WEEK*”, a cultural event of Gauhati University.
- Interested in indoor and outdoor games.

## Technical Skills

- Mapple, Mathematicae, Matlab, Scilab, Latex.
- Certified a Computer Program on “**Diploma in Computer Application and Maintenance**” with grade “A” from *Infotech System, Kokrajhar (Assam), India*, during January 2010 to June 2010.

## Personal Details

Name:	Indira Priyadarshini Tripathi
Date of Birth:	26/06/1989
Present Address:	S. V. National Institute of Technology Surat, Ichchhanath Surat-Dumas Road, Keval Chowk Surat, Gujarat 395007, India.
Passport Details:	Having Valid Indian Passport
Language Proficiency:	English, Hindi, Bengali, Assamese
Hobbies:	Playing Badminton, Reading novels, Internet surfing, Singing, Exploring new places.
Marital Status:	Married
Nationality:	Indian

**Declaration:**

I hereby declare that all the information provided by me above is factual and correct to the best of my knowledge and belief.

Place: Surat

Date: 8<sup>th</sup> September, 2021

(Indira P. Tripathi)