ANURAG JAYSWAL

Professor of Mathematics & Computing
🏠 www.sites.google.com/view/dranuragjayswal

RESEARCH INTEREST

Mathematical Programming

Multi-time control optimization

Non-smooth Analysis

Generalized Convexity

Vector Optimization

Variational Inequality

Robust Optimization

TOTAL PUBLICATIONS

- SCI/ESCI - 75
- Scopus - 48
- Book Chapter - 02

For Complete List of Publications. Click Here

CONTACT

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OBJECTIVE

To encourage creativity and higher-order thinking in a way that increases student performance.

TEACHING EXPERIENCE

Professor
Indian Institute of Technology (ISM), Dhanbad, India

August 2023 - Present

Associate Professor
Indian Institute of Technology (ISM), Dhanbad, India

Sep 2017 - August 2023

Assistant Professor
Indian Institute of Technology (ISM), Dhanbad, India

Aug 2010 - Sep 2017

Assistant Professor
Birla Institute of Technology, Ranchi, India

Aug 2005 - Aug 2010

Research Fellow
G. B. Pant University of Agriculture and Technology, Pant nagar, India

Aug 2004 - Jul 2005

Lecturer
Ghanshyam Singh Degree College, Varanasi, India

Jul 2003 - Jun 2004

ADMINISTRATIVE EXPERIENCE

Associate Dean (SIW) 2024-Present
Hostel Warden 2015-2018
DUGC Member 2022-2024
DUGC Convener 2020-2022
Time Table Incharge (M&C) 2024-Present
DFSC (M&C, Appl. Geophy., Manag. and Industrial)
Course Coordinator (M.Sc, Int. M.Tech.)
DSC Member of Several Departments

EDUCATION

PROGRAMMING SKILLS

- Word
- Excel
- Latex
- Matlab
- C++

RECENT PUBLICATIONS

CONTINUOUS OPTIMIZATION AND VARIATIONAL INEQUALITIES

EDITED BY
ANURAG JAYSWAL
TADEUSZ ANTCZAK

CRC Press
A CHAPMAN & HALL BOOK
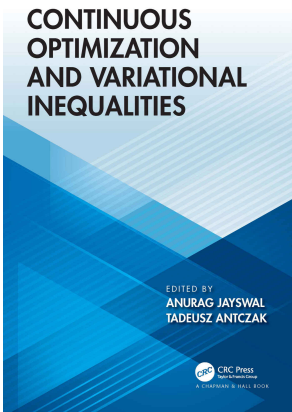
- Editors: Anurag Jayswal and Tadeusz Antczak.

Industrial and Applied Mathematics
Anurag Jayswal
Preeti
Savin Treanţă

Multi-dimensional Control Problems
Robust Approach

Springer
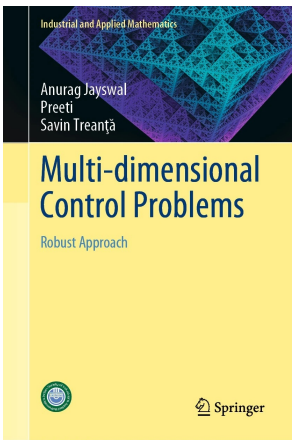
- Editors: Anurag Jayswal, Preeti and Savin Treanta.

- Anurag Jayswal, Gaurav Uniyal, Lagrange duality and saddle point criteria for semi-infinite variational programming problem with Caputo-Fabrizio fractional derivative, "Journal of Applied Mathematics and Computing" (2025) (Accepted). IF-2.4 **Q1**

- Anurag Jayswal, P. Samal, J. C. Yao, LP well-posedness for multidimensional bilevel controlled variational inequalities, "Optimization" (2025) (Accepted). IF-2.36 **Q2**

- Preeti, Anurag Jayswal, T. Antczak, A new approach for solving the multidimensional control optimization problems with first-order partial differential equations constraints, "Asian Journal of Control" (2025) (Accepted). IF-2.7 **Q2**

- Anurag Jayswal, Gaurav Uniyal, Optimal conditions and duality results for a semi-infinite variational programming problem and its Mond–Weir dual involving Caputo–Fabrizio fractional derivatives, "Journal of Computational and Applied Mathematics" 468 (2025) 116628. IF-2.1 **Q1**

- Anurag Jayswal, Ayushi Baranwal, Isoperimetric-type constrained variational control problem with uncertainty: robust optimality and duality, "Annals of Operations Research" (2024) (Accepted). IF-4.854 **Q1**

- Anurag Jayswal, Ayushi Baranwal, M Arana-Jiménez, Robust controlled vector variational inequalities for multi-dimensional fractional control optimization problems, "Archives of Control Sciences" (2024) (Accepted). IF-1.2 **Q2**

- Anurag Jayswal, Babli Kumari, Nonsmooth pseudo-linear vector optimization and vector variational inequalities on Hadamard manifolds, "Filomat" 38:31 (2024), 10879–10891. IF-0.635 **Q2**

HONORS AND AWARDS

Young Scientist of the Department of Science and Technology, Ministry of Science and Technology, Government of India.

B.H.U. Merit Award-1997 for having 1st rank in order of merit in P.G. Mathematics examination.

PROFESSIONAL MEMBERSHIP

- American Mathematical Society
- Working Group of Generalized Convexity
- Society of Applied Mathematics, ISM Dhanbad
- Indian Mathematical Society, India

RESEARCH REVIEWS JOURNALS

- 4OR
- Applied Mathematics and Computations
- Control and Cybernetika
- European Journal of Operation Research
- Information Sciences
- Journal of Global Optimization
- Journal of Mathematical Modeling Algorithm in Operation Research
- Optimization Letters
- and many more...

RESEARCH PROJECTS

Study of Multi-time Control Problem Governed by Curvilinear Integral Cost Functional with Applications
SERB-DST-Completed

Ongoing

Study on Some Solution Methods of Vector Optimization Problems
CSIR-Completed

2017 - 2020

Generalized Convexity and Its Applications to Multi-objective Programming Problems
DST-Completed

2013 - 2016

Some Aspect of Mathematical Programming Problems Involving Generalized Convexity
UGC-Completed

2012 - 2015

Application of Generalized Convexity in Mathematical Programming Problems
IIT(ISM), Dhanbad-Completed

2011 - 2014

RESEARCH GUIDANCE

Title of Ph.D. Thesis

Ongoing

- **Some study on mathematical programming problems using generalized derivatives**
- **Well-posedness on variational problems and variational inequalities**
- **Some study on interval-valued optimization problem**

VISITED INTERNATIONAL UNIVERSITIES

- Imperial College, London
- University of Florida, USA
- University of Debrecen, Hungry
- Future University, Japan
- Heidelberg University, Germany
- Pisa University, Italy

Title of Ph.D. Thesis

Awarded

- **Optimality conditions and duality in mathematical programming problems with generalized convexity -(2014)**
- **On some mathematical programming problems -(2014)**
- **Some aspects of minimax programming problems with generalized convexity -(2015)**
- **Optimality criteria for a class of interval-valued programming problems -(2016)**
- **Study on optimality conditions for nonlinear programming problems -(2017)**
- **Mathematical models and simulation on epidemic diseases -(2017)**
- **Some aspects for vector variational inequalities -(2017)**
- **Some solution approaches to nonlinear optimization problems -(2018)**
- **Study of nonlinear programming problems with generalized convexity -(2019)**
- **Generalized convexity and optimization Problems on Riemannian manifolds -(2020)**
- **Penalty approach for multi-dimensional optimization problems -(2021)**
- **Optimization of deteriorating inventory -(2022)**
- **Study on optimality conditions for multi-dimensional optimization problems -(2024)**

Title of M.Phil. Dissertation

Awarded

- **Multiobjective mathematical programming problems involving generalized convexity -(2010-11)**
- **Minimax fractional programming with generalized convex functions -(2012-13)**
- **Symmetric duality under generalized convexity -(2013-14)**
- **Some study of vector variational inequality problem -(2014-15)**

CONFERENCE/TRAINING ORGANIZED

- Integral Transformations, Distributions, Wavelete Analysis -December 14-18, 2015
- Nonlinear Analysis and its Application to Optimization Techniques -August

18- 22, 2017

- Nonlinear Analysis and Optimization -December 1-5, 2017

- Integral Transformations, Distributions, Wavelete Analysis and Applications -October 08- 12, 2018

CONFERENCE PARTICIPATED

21 national and international conferences are attended in India and Abroad.

INVITED TALKS

- In the online short-term course on Optimization Theory, Methods and Applications organized by the Indian Institute of Technology, Roorkee, India - August 18-20, 2020.

- In the International Conference on Recent Trends in Analysis and Optimization organized by the National Institute of Technical Teachers' Training and Research, Bhopal, India - November 09-11, 2020.

- In the 87th Annual Conference of IMS on Optimization Theory and Applications organized by the Jawaharlal Nehru Engineering College, MGM University, Aurangabad, India - December 04-07, 2021.

- In the International Conference on Operations Research on Game Theoretic Approach in Decision Making organized by the Indian Statistical Institute, Delhi Center, India - January 17-19, 2024.

- In the 2nd International Conference on Recent Advances in Applied Mathematics organized by the Indian Institute of Technology (BHU), Varanasi, India - July 03-05, 2024.

- In the National Mathematics Day organized by the Central University of Jharkhand, Ranchi, India - 22 December, 2024.

- In the International Conference on Computational Operations Research and Algorithmic Game Theory organized by the Indian Statistical Institute, Delhi Center, India - January 21-23, 2025.