

Name: Dr. Anu Bala

Designation: Assistant Professor

Specialization: Applied Mathematics

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Education

M.Sc. Mathematics (2006, Himachal Pradesh University, Shimla),
CSIR-UGC-NET(2010)

CSIR-JRF Fellowship (Jan. 2012 –Dec. 2013)

CSIR-SRF Fellowship (Jan.2014-June2016)

Ph.D. (2016, Indian Institute of Technology (IIT) Roorkee)

Title of Ph. D Thesis: Object Reconstruction and Registration with Image
Gradients using Numerical Simulation

Professional Experience:

Department of Mathematics, M.M. Modi College, Patiala, India (01 December, 2018
to till date)

Department of Mathematics, Dr. B.R. Ambedkar National Institute of Technology
(NIT), Jalandhar, India (24, August, 2016 to 2 June, 2017)

Department of Mathematics, Guru Nanak Dev Engineering College, Ludhiana, India,
(02, August, 2007 to 27 December, 2010)

Department of Mathematics, Sh. Lal Bahadur Shastri Arya Mahila College, Barnala,
India, (09, November, 2002 to 17 May, 2003)

Teaching Interests:

- Numerical Methods
- Ordinary Differential Equations
- Partial Differential Equations
- Optimization Techniques

Research Interest:

Numerical Methods, Computer Vision, Digital Image Processing, Artificial Intelligence, Machine Learning

Publications:

1. **Anu Bala**, Sanjeev Kumar and Rama Bhargava "2D-3D Non-rigid Registration Using Depth from Gradient Information", *3D Research (Springer)*. (2015) **6(30)**: -1-11.

<https://link.springer.com/article/10.1007/s13319-015-0066-3>

2. **Anu Bala**, Sanjeev Kumar and Rama Bhargava "Recovering Depth Map from Enhanced Image Gradients", *Procedia Computer Science (Elsevier)*. (2015) **70**: 572-578

<https://www.sciencedirect.com/science/article/pii/S1877050915031968>

3. Sandeep Kumar Singla, Rahul Dev Garg, Om Prakash Dubey and **Anu Bala** "Extraction of Crop Information from Reconstructed Landsat Data in Himalayan Foothills Region ", *Procedia Computer Science (Elsevier)*, (2018) **125**: 99-106.

<https://www.sciencedirect.com/science/article/pii/S1877050917327795>

4. Hardeep Kaur, Sandeep Kumar Singla and **Anu Bala** " IRIS Recognition System Based on Mode Decomposition and Fractal Dimensional " *International Journal of Research in Electronics and Computer Engineering (IJRECE)*, (2018) **6(4)**: 988-993.

5. Nancy Gupta, Sandeep Kumar Singla and **Anu Bala** " Enhancement With Data Encryption Method in Multi-Model Biometric System ", *Journal of Applied Science and Computations*, (2018) **5(11)**: 208-218.

6. Sandeep Kumar Singla, Rupinder Kaur and **Anu Bala** " Prediction of Depression in Human Behaviour using Deep Learning Neural Network", *International Journal of Health and Economic Development*, (2018) **4(2)**: 16-23.

Conference / Seminars

A) Paper presented:

1. Anu Bala, Sanjeev Kumar, Rama Bhargava and Maulik Agarawal "Surface Reconstruction by Evaluating Height from Gradient Values", 4th IEEE International Advance Computing Conference (IACC), 2014

<https://ieeexplore.ieee.org/document/6779467?section=abstract>

2. Maulik Agarawal, Sanjeev Kumar and Anu Bala "Three Dimensional Object Retrieval using a Skeleton based Approach", 4th IEEE International Advance Computing Conference (IACC), 2014 <https://ieeexplore.ieee.org/document/6779488>

3. Anu Bala, Sanjeev Kumar, Rama Bhargava "Recovering Depth Map from Enhanced Image Gradients", International Conference on Eco-Friendly Computing and Communication System (ICECCS), 2015

<https://www.sciencedirect.com/science/article/pii/S1877050915031968>

4. Sandeep Kumar Singla, Rahul Dev Garg, Om Prakash Dubey, Anu Bala " Extraction of Crop Information from Reconstructed Landsat Data in Himalayan Foothills Region ", 6th International Conference on Smart Computing and Communications (ICSCC), 2017

<https://www.sciencedirect.com/science/article/pii/S1877050917327795>

B) Attended

1. Attended First National Conference on Applied Mathematics (NCAM) in Guru Nanak Dev Engineering College, Ludhiana, 30November-01 December 2007.
2. Attended International Conference on Computer Vision & Image Processing (CVIP-2016) in IIT Roorkee, 26 February- 28 February 2016..

Workshops and training courses

One Week Short Term Course on Recent Advancements in Software Intensive Systems: Machine Learning and Cyber Security Perspectives At Indian Institute of Technology (IIT), Roorkee from December 23-27, 2019.

One Week Faculty Development Programme (FDP) on Emerging Issues & Challenges in Higher Education At Multani Mal Modi College, Patiala from July 17-22, 2019.

One Week Workshop on Computational Techniques for Differential Equations with MATLAB

(2015) At Indian Institute of Technology Roorkee (IIT Roorkee) from July 02-06, 2015.

One Week STC on Educational Auditing and Feedback System for Excellence in Technical Institutions

(2009) at GNDEC, Ludhiana from 12/01/2009 to 16/01/2009 organized by NITTTR Chandigarh.

One Week AICTE Sponsored STC on Understanding Soft Computing and its Applications

(2009) at GNDEC Ludhiana from 06/01/2009 to 10/01/2009 organized by NITTTR Chandigarh.

National Seminar on Problems in Communication

(2009) at Guru Nanak Dev Engineering College, Ludhiana

One Week STC on ANN & Optimization in Video Application

(2008) at GNDEC, Ludhiana from 25/11/2008 to 28/11/2008 organized by NITTTR Chandigarh.

One Week Short Term Course on Computational Aspects of Mathematics

(2008) At Sant Longowal Institute of Engineering and Technology, Longowal from

December 22-26, 2008.

Symposium on Mathematical Applications in Engineering Education

(2008) at Ludhiana College of Engineering and Technology,
Katani Kalan Ludhiana

National Hiking Treking Camp

(2003) Performed Duty as House Incharge during National Hiking and Treking Camp sponsored by Govt. of India, Ministry of Youth Affairs and Sports held at Manalsu Nallah, Manali from 17.06.2003 to 25.06.2003.

UGC Sponsored Seminar on NAAC and the challenges before Colleges

(2003) at LBS Arya Mahila College Barnala affiliated to Punjabi University Patiala on 28th February 2003.

NSS

(1997) National Camp under the Youth Campaign for sustainable Development