



REPORT

FDP: “Smart and Sustainable Agriculture:
Leveraging AI, IoT, and Big Data for Societal
Impact Big Data for Societal Impact”

5–20 September 2025



Basavarajeswari Group of Institutions

ಬಳ್ಳಾರಿ ಇನ್‌ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಟೆಕ್ನಾಲಜಿ & ಮ್ಯಾನೇಜ್‌ಮೆಂಟ್, ಬಳ್ಳಾರಿ

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

Autonomous Institute under Visvesvaraya Technological University, Belagavi

(Recognized by Govt. of Karnataka & AICTE, New Delhi)

"Jnana Gangotri" Campus, #873/2, Ballari-Hosapete Road, Near Allipura, Ballari-583 104 (Karnataka)



Summary:

The Ballari Institute of Technology and Management (BITM), Ballari, Department of Computer Science and Engineering (Data Science), successfully organized a one-week Faculty Development Program (FDP) sponsored by AICTE Training and Learning (ATAL) Academy on the theme “**Smart and Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact**” from **September 15 to 20**.

The objective of this FDP was to provide faculty members and researchers with practical knowledge of *Precision Farming, Smart Irrigation, Agricultural Data Analytics, and Sustainable Agricultural Practices* through the application of *Artificial Intelligence (AI), Internet of Things (IoT), and Big Data* technologies.

During the six-day program, eminent experts from various institutions across the country delivered insightful lectures and conducted hands-on sessions.

- **Day 1:** Dr. Tripti Swarnkar (NIT Raipur), Dr. Jagadeesh R. M. (BITM), and Mrs. Kaveri Bommanakatti (Delight Pvt. Ltd., Bengaluru) delivered sessions on *AI-based Crop Monitoring, Disease Detection (Practical), and Crop Monitoring using Big Data*.
- **Day 2:** Dr. Sharangouda Hiregoudar spoke on *Nanotechnology in Food Processing*, Dr. Suresh Y. on *AI-based Agricultural Practices*, and Mr. Hemant Kumar conducted a *Google Cloud and Machine Learning (Hands-on)* session.
- **Day 3:** Dr. Rupam Kumar Sharma delivered a practical session on *Genetic Trait Mapping and Quantitative Trait Locus Mapping in Maize*, and Dr. Renuka Sagar spoke on *Drone-based Crop Disease Detection*.
- **Day 4:** Mr. Vishwanath Gowda H. discussed *Smart and Sustainable Agriculture through AI, IoT, Big Data, Cybersecurity, and Cloud (AWS)*; Dr. Aradhana D. delivered a session on *Fruit Quality Estimation using Computer Vision*; and Mr. Raymond Irudayaraj I. spoke on *IoT Innovations for Smart and Sustainable Agriculture*.
- **Day 5:** An industrial visit to *Krishi Vigyana Kendra, Hagari* was organized. Dr. Shiba Narayan Swain, Professor, Department of Computer Science and Engineering, *IIT Dharwad*, delivered a session on *AI and Blockchain for Next-Generation Agricultural Technologies* and conducted practical demonstrations.
- **Day 6:** Dr. Manjunath Kumar B. H., Professor and Head, Department of Computer Science and Engineering, *SJC Institute of Technology, Chikkaballapur*, presented a session on *IoT and Edge AI in Smart Farming*, and Mrs. Tejashwini S. G. (Accenture, Bengaluru) conducted a hands-on session on *Agricultural Data Analytics using Power BI*.

The **Valedictory Function** was held on the final day, where a summary of the week-long activities was presented, and participants were awarded certificates from the *AICTE ATAL Academy*.

The **Chief Patrons** of the FDP were *Dr. Yashwanth Bhupal* (Chairman, BITM), *Prof. Y. J. Pruthviraj Bhupal* (Director), *Dr. Yadavalli Basavaraj* (Principal), and *Dr. B. S. Khened* (Vice Principal). The program was convened by *Dr. Aradhana D.* (HoD, CSE-DS) and *Dr. R. N. Kulkarni* (Dean and HoD, CSE). *Dr. Jagadeesh R. M.*, *Dr. Renuka Sagar*, and *Mr. Ajar Baig M.* served as *Course Coordinators*, while *Mr. Manjunath Kammar* served as *Course Secretary*.

The one-week FDP concluded successfully, providing participants with valuable practical insights into the use of modern technologies in agriculture.

Resource Person Details:

1. Dr. Tripti Swarnkar

It is an honor to welcome **Dr. Tripti Swarnkar**, Professor in the Department of Computer Applications at **NIT Raipur**. With over **25 years of academic excellence**, she holds a Ph.D. from **IIT Kharagpur** and specializes in **Bioinformatics and Machine Learning**. Dr. Swarnkar has published **300+ papers** and authored books with **Springer, Elsevier, and CRC Press**. She has led **AI-based healthcare projects** and chaired major conferences. A **Senior IEEE Member** and **WIE Chair Awardee (2023)**, she is an inspiring researcher blending **AI, data science, and healthcare innovation**.

2. Ms. Tejashwini S. G

We are delighted to welcome **Ms. Tejashwini S. G**, Team Lead at **Accenture** and former Assistant Professor at **BITM, Ballari**. She holds a **B.E. in Information Science, M.Tech. in Digital Electronics**, and is pursuing her **Ph.D. in Machine Learning** from **VTU**. With experience in **Power BI, Data Engineering, and Cloud Services**, she has received multiple **ACE Awards** for excellence in analytics and reporting.

3. Mr. Hemanth Kumar

It is our privilege to welcome **Mr. Hemanth Kumar**, an **Enterprise Cloud Architect** with over **25 years of global experience** across the **USA, UK, Australia, and India**. He holds certifications from **Microsoft, Google, and IBM**, and has led cloud transformation projects for leading banks like **RBS, JP Morgan, and Swiss Bank**. A visionary in **Cloud Computing, AI, and DevOps**, he continues to inspire through his leadership and innovation.

4. Mr. Vishwanath Gowda H

Mr. Vishwanath Gowda H, Chief Technical Security Officer, Commonwealth Bank of Australia, delivered an insightful session on “**Smart & Sustainable Agriculture Leveraging AI, IoT, Big Data, Cyber Security, and Cloud (AWS)**” on 18th September 2025 as part of the AICTE-ATAL Sponsored FDP on “**Smart & Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact,**” organized by the Department of CSE (Data Science), BITM, Ballari.

5. Dr. Rupam Sharma

It's a pleasure to welcome **Dr. Rupam Sharma**, Assistant Professor at **Rajiv Gandhi University, Arunachal Pradesh**. He holds a **Ph.D. in Computer Science** from **NEHU** and has authored books on **Data Science and Soft Computing**. His research focuses on **Deep Learning, IoT, and Intelligent Systems**, and he holds patents for innovative technologies like **Automated Tea Leaf Harvesting Machines**.

6. Dr. Sharanagouda Hiregoudar

We are honored to welcome **Dr. Sharanagouda Hiregoudar**, Professor and Head of **Processing & Food Engineering**, UAS Raichur. A **Ph.D. holder** with a **Post-Doctoral Fellowship from Canada**, he has published **119 papers**, holds **6 patents**, and led **24 projects worth ₹25 crores**. A recipient of the **APJ Abdul Kalam Lifetime Achievement Award**, he is a pioneer in **anotechnology and Food Processing Innovation**.

7. Dr. Aradhana D

It's our pleasure to introduce **Dr. Aradhana D**, Professor and Head, **CSE (Data Science)** at **BITM, Ballari**. With over **27 years of teaching** and **15 years of research experience**, she has contributed extensively to **AI, Data Science, and Image Processing**. She has filed multiple **AI-based patents** and led numerous FDPs and research initiatives.

8. Dr. Renuka Sagar

We warmly welcome **Dr. Renuka Sagar**, Professor in **AI & ML** at **BITM, Ballari**. With **18 years of experience**, she has authored books, holds **two international patents**, and received several awards including **Bharat Education Excellence (2024)**. She founded BITM's **IoT & Embedded Systems Labs** and continues to lead impactful research in **AI and Healthcare Technologies**.

9. Dr. Yeresime Suresh

It gives me great pleasure to welcome **Dr. Yeresime Suresh**, Professor and Head, **CSE-AI**, **BITM, Ballari**. He holds a **Ph.D. from NIT Rourkela** and has over **15 years of academic and research experience** with **40+ publications**. His research focuses on **AI, Machine Learning, and Software Engineering**, and he is an active member of **IEEE and ISTE**.

10. Ms. Kaveri Bammanakatti

We are delighted to welcome **Ms. Kaveri Bammanakatti**, Software Engineer at **DLithe Consultancy Services Pvt. Ltd.** A skilled **Full-Stack Developer**, she works with **Python, React, and Node.js**, developing innovative web solutions. A graduate of **VTU**, she has shown exceptional leadership and creativity in software development projects.

11. Dr. Manjunatha Kumar B. H

It is an honor to introduce **Dr. Manjunatha Kumar B. H**, Professor and Head, **CSE**, at **SJC Institute of Technology, Chikkaballapur**. With over **20 years of experience**, he has contributed significantly to **AI and Natural Language Processing**, and published several notable research papers. A dedicated academician and **IEEE member**, he has led FDPs, guided researchers, and contributed to technological advancement.

12. Dr. Siba Narayan Swain

We are honored to welcome **Dr. Siba Narayan Swain**, Assistant Professor at **IIT Dharwad** and **Associate Dean, Faculty Welfare**. He completed his **Ph.D. at IIT Madras** and specializes in **5G, 6G, AI, and Blockchain-based Networks**. With both **academic and industry experience**, he has led multiple **SERB-funded projects** and delivered talks at global platforms.

BROCHURE:

KEY TOPICS:

- Introduction to Smart Agriculture
- Artificial Intelligence in Agriculture
- IoT Applications in Agriculture
- Big Data and Analytics in Agriculture
- Sustainable Agricultural Practices

OBJECTIVES OF THE FDP:

- To introduce faculty members to the latest AI, IoT, and Big Data technologies in agriculture.
- To enhance understanding of precision farming and smart irrigation techniques.
- To explore the role of data analytics in agricultural decision-making.
- To discuss sustainability challenges and solutions in modern agriculture.
- To provide hands-on experience with AI models, IoT sensors, and data visualization tools.

Eligibility: Faculty members from AICTE-approved institutions, research scholars, PG scholars, government officials, industry professionals (bureaucrats/technicians/other participants), and staff of host institutions are eligible to participate.

Note: Not more than 30% of the participants shall be from the host institution.

Registration: There is No Registration Fee. To join this Offline FDP, you are requested to register your name by clicking the registration link:

<https://www.aicte-india.org/atal>

Resource Person: Academicians and Industry Experts.

Note: The Certificates shall be issued by AICTE Training and Learning (ATAL) academy to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test conducted at the end of the FDP.



BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT, BALLARI, KARNATAKA
(Autonomous Institute under VTU, Belagavi)

ONE WEEK ATAL FDP 2025-26
ON
"Smart and Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact"

Sponsored by ATAL (AICTE Training & Learning Academy)
15-20, September 2025

Organized by
Department of CSE(Data Science), BITM

Course Coordinator
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Course Co-Coordinator(s)
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CHIEF PATRONS:

Dr. Yashvanth Bhupal
Chairman, BITM &
Chancellor, Kishkinda University, Ballari

Prof. Y.J Prithviraj Bhupal
Director, BITM &
Pro-Chancellor, Kishkinda University, Ballari

PATRONS:

Dr. Yadavalli Basavaraj
Principal, BITM

Dr. B. S. Khened
Vice Principal, BITM

CONVENERS:

Dr. Aradhana D
Prof. & Head, Dept. of CSE(DS), BITM

Dr. R.N Kulkarni
Dean & Head, Dept. of CSE, BITM

TECHNICAL ADVISORY COMMITTEE:

Dr. B. M. Vidyavathi,
Prof. & Head, Dept. of AIML, BITM

Dr. Suresh Y,
Prof. & Head, Dept. of CSE(AI), BITM

COURSE SECRETARY
Mr. Manjunath Kammar,
Asst Professor, Dept. of CSE (DS)
M: +91 8095101442

About BITM:

Ballari Institute of Technology & Management, Ballari was established in the year 1997 with a sole objective to provide quality & affordable education, in this backward district of Karnataka. The campus is spread over 11 acres of greenery with eco-friendly surroundings, has facilities that are a class apart, combining aesthetics with modernity. As per the report of D.M. Nanjundappa (Deputy Chair of the Karnataka State Planning Board), in the year 2013, Govt. of India has given special status under Article 371-10 until the education system in this Kalyana Karnataka (Hyderabad -Karnataka Region).

BITM is an Autonomous Institute under VTU, Belagavi. Institution has actionable outcome based education across the institute & has successfully obtained NBA for Grade with CGPA of 3.27 and NBA Accreditation for 5 UG Programs (i.e., CSE, ECE, ME, EEE & Civil).

To adhere to quality, institution is ISO certified since 2005 & currently follows a adherence to ISO conditions as stipulated by the ISO 9001:2017. Institution confirms to the demanding international standards by creating & implementing a Quality Management System.

About Dept:

Data Science (CSE-DS) offers a 4-year undergraduate program. It's considered one of the best branches in the field of technology under CSE. This program opens up a wide range of job opportunities in various fields. Data science is a top branch of computer science, and it's growing fast. It's one of the most popular career paths in the tech world right now. The Department of Computer Science and Engineering - Data Science was founded in the academic year 2022-23. Since then, it has flourished, boasting a team of highly qualified and dedicated faculty members.

The department has evolved from its modest origins to become fully operational, with state-of-the-art laboratories and infrastructure in place. It encourages collaboration among faculty members, enabling them to stay updated with the latest advancements and refine their skills to meet the needs of industry and technology.

About FDP:

The rapid advancements in technology are revolutionizing agriculture, making it more efficient, productive, and sustainable. Artificial Intelligence (AI), the Internet of Things (IoT), and Big Data are driving innovations in precision farming, smart irrigation, automated monitoring, and data-driven decision-making. This Faculty Development Program (FDP) aims to equip educators, researchers, and professionals with the knowledge and skills necessary to leverage these technologies for societal and environmental impact.

EVENT SCHEDULE

DAY 1

- Data-Driven Agriculture: AI and Big Data for Sustainable Growth by **Dr. Tripti Swarnkar, Professor, Department of Computer Applications, National Institute of Technology, Raipur-492010, Chhattisgarh, India**
- An Adaptive AI-Enhanced Technique for Crop Monitoring using IoT by **Dr. Jagadish R M, Professor, Department of CSE(Data Science), Ballari Institute of Technology & Management, Ballari, India**
- AI-Driven Crop Monitoring and Disease Detection and Hands on by **Ms. Kaveri BommanaKatti, Software Engineer, DLthe Consultancy Service Private Limited, Bengaluru.**

DAY 2

- Application of Nanotechnology in Food Processing by **Dr. Sharanagouda Hiregoudar, Professor and Head, Dept. of Processing and Food Engineering and Centre for Nanotechnology, UAS, Raichur 584104, Karnataka, India.**
- Sustainable AI-Based production agriculture: Exploring AI Applications in agricultural Practices by **Dr. Suresh Y , Professor & Head, Department of CSE(Artificial Intelligence), BITM, Ballari, India**
- Google Cloud and ML Offerings and hands on session by **Mr. Hemanth Kumar Principal Consultant Cloud Architecture, Wipro Solutions Private Limited, Bengaluru, India**

DAY 3

- Role of computational model in mapping genotype interaction to phenotype traits in reference to Maize plants by **Dr. Rupam Kumar Sharma, Professor, Department of Computer Science Engineering, Rajiv Gandhi University (Central University), Arunachal Pradesh, India**
- Drone Based crop disease detection using by **ML Dr. Renuka Sagar, Professor, Department of Artificial Intelligence & Machine Learning, BITM Ballari, India**
- Advancements in Quantitative Trait Locus (QTL) Mapping for Maize Traits Using Computational Models and Hands on by **Dr. Rupam Kumar Sharma, Professor, Department of Computer Science Engineering, Rajiv Gandhi University (Central University), Arunachal Pradesh, India**

DAY 4

- Big Data, and advanced analytics by **Dr. Dinesha H A, Founder chairman & Director, Cybersena (R&D) India Pvt, Ltd. Bangalore, India**
- Fruit Quality Prediction using computer vision by **Dr. Aradhana D, Professor & Head, Department of CSE(Data Science), BITM, Ballari, India**
- Empowering Smart & Sustainable Farming through IoT Innovations by **Mr. Raymond Irudayaraj I, Technical Lead, Raylog Autonetics Pvt. Limited, Bengaluru, India**

DAY 5

- **Industrial Visit to Krishi Vigyan Kendra, Hagari, Ballari, Karnataka** under the administrative control of University of Agricultural Sciences, Raichur with an 100 percent financial assistance by the ICAR, New Delhi.
- Role of AI and Block chain In Building Next Generation Agri Technology by **Dr. Siba Narayan Swain, Professor, Department of Computer Science Engineering, Indian Institute of Technology, Dharwad, India**
- Hands-On by **Dr. Siba Narayan Swain, Professor, Department of Computer Science Engineering, Indian Institute of Technology, Dharwad, India**

DAY 6

- IoT and Edge AI in Smart Farming by **Dr. Manjunatha Kumar B H, Professor & Head, Dept. of CSE, S J C INSTITUTE OF TECHNOLOGY, Chickballapur, India**
- Hands-On by **Mrs. Tejashwini S.G, Team Lead Accenture, Bangalore, India**
- **MCQs and Reflection Journal**
- **Valedictory Session**



BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(A Unit of T.E.H.R.D. Trust, NBA & NAAC A+ and ISO 9001:2017 Certified Institutions (Recognized by Govt. of Karnataka, Approved by AICTE, New Delhi & Affiliated to VTU, Belagavi)
"Jnana Gangotri" Campus, #873/2, Ballari-Hosapete Road, Near Allipura, Ballari - 583 104 (Karnataka), India
www.bitm.edu.in

BITM Successfully Organized One-Week Faculty Development Program (FDP) on “Smart and Sustainable Agriculture”

The Department of Computer Science and Engineering (Data Science), Ballari Institute of Technology and Management (BITM), Ballari, successfully organized a one-week Faculty Development Program (FDP) sponsored by the AICTE Training and Learning (ATAL) Academy from **September 15 to 20** on the theme “*Smart and Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact*”.

Objectives of the FDP:

- To provide **practical knowledge on precision farming**.
- To impart insights into **smart irrigation techniques**.
- To train participants in **agricultural data analytics**.
- To explore **sustainable farming practices**.
- To demonstrate the application of **Artificial Intelligence (AI), Internet of Things (IoT), and Big Data technologies** in agriculture.

The six-day program featured expert lectures and hands-on sessions delivered by renowned speakers across the country:

Paper Add:

ಸೆ.15 ರಿಂದ ಸ್ಮಾರ್ಟ್ ಮತ್ತು ಸುಸ್ಥಿರ ಕೃಷಿ ಅಟಲ್ ಫ್ಯಾಕ್ಟಲಿ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯಕ್ರಮ

■ ಖಚ್ಚರಿ ವಾಣಿ, ಖಚ್ಚರಿ

ಬಳ್ಳಾರಿ ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಟೆಕ್ನಾಲಜಿ ಅಂಡ್ ಮ್ಯಾನೇಜ್‌ಮೆಂಟ್ ನಲ್ಲಿ ಸೆ.15ರಿಂದ ಸೆ.20ರವರೆಗೆ 'ಸ್ಮಾರ್ಟ್ ಮತ್ತು ಸುಸ್ಥಿರ ಕೃಷಿ' ಕುರಿತ ಒಂದು ವಾರದ ಅಟಲ್ ಫ್ಯಾಕ್ಟಲಿ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯಕ್ರಮ ಆಯೋಜಿಸಲಾಗಿದೆ.

ಈ ಕುರಿತು ಬಿಜಿಟಿಎಂ ನ ಪ್ರಾಚಾರ್ಯ ಡಾ.ಯಡವಳ್ಳಿ ಬಸವರಾಜ್ ಅವರು ಪ್ರಕಟಣೆ ನೀಡಿದ್ದು, ಸ್ಮಾರ್ಟ್ ಮತ್ತು ಸುಸ್ಥಿರ ಕೃಷಿ: ಸಾಮಾಜಿಕ ಪರಿಣಾಮಕ್ಕಾಗಿ ಎಐ, ಐಟಿ ಮತ್ತು ಬಿಗ್ ಡೇಟಾವನ್ನು ಬಳಸಿಕೊಳ್ಳುವುದು (Smart and Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact) ಎಂಬ ವಿಷಯದಡಿ ಒಂದು ವಾರದ ಅಟಲ್ ಫ್ಯಾಕ್ಟಲಿ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯಕ್ರಮ (ATAL Faculty Development Program) ಆಯೋಜಿಸಿದೆ.

ಎಐಟಿಎಂನ ಅಟಲ್ ಅಕಾಡೆಮಿ ಪ್ರಾಯೋಜಿಸಿದ್ದು, ಬಿಜಿಟಿಎಂನ ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್



(ಡೇಟಾ ಸೈನ್ಸ್) ವಿಭಾಗವು ನಡೆಸಲಿದೆ.

ದೇಶದ ಪ್ರತಿಷ್ಠಿತ ಐಐಟಿ, ಎಸ್‌ಐಟಿ ಹಾಗೂ

ಕೈಗಾರಿಕಾ ತಜ್ಞರು ಸಂಪನ್ಮೂಲ ವ್ಯಕ್ತಿಗಳಾಗಿ

ಭಾಗವಹಿಸಿ, ಕೃಷಿ ಕ್ಷೇತ್ರದಲ್ಲಿ ತಂತ್ರಜ್ಞಾನ ಬಳಕೆ,

ಸುಸ್ಥಿರತೆ ಮತ್ತು ಸಾಮಾಜಿಕ ಪರಿಣಾಮಗಳ ಕುರಿತು ವಿಶ್ಲೇಷಣೆ ಹಾಗೂ ಚರ್ಚೆ ನಡೆಸಲಿದ್ದಾರೆ.

ಪ್ರಾಧ್ಯಾಪಕರಿಗೆ ನವೀಕೃತ ಜ್ಞಾನವನ್ನು ನೀಡುವತ್ತ ಈ ಕಾರ್ಯಕ್ರಮ ಮಹತ್ವದ ಹೆಜ್ಜೆಯಾಗಲಿದೆ.

ಸಂಸ್ಥೆಯ ನಿರ್ದೇಶಕ ವೈ. ಜಿ. ಪೃಥ್ವಿರಾಜ ಭೂಪಾಲ್ ಹಾಗೂ ಅಧ್ಯಕ್ಷ ಡಾ. ಯಶವಂತ್ ಭೂಪಾಲ್ ಅವರ ಸಂಪೂರ್ಣ ಬೆಂಬಲ ಲಭಿಸಿದ್ದು

ಕಾರ್ಯಕ್ರಮದ ಮಾರ್ಗದರ್ಶನವನ್ನು ವಿಭಾಗ ಮುಖ್ಯಸ್ಥ ಡಾ. ಆರಾಧನಾ ಡಿ (ಎಸ್‌ಇ ಡೇಟಾ ಸೈನ್ಸ್), ಡೀನ್ ಡಾ. ಆರ್. ಎನ್. ಕುಲಕರ್ಣಿ

(ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್) ಹಾಗೂ ಉಪ ಪ್ರಾಚಾರ್ಯರು ಡಾ. ಬಿ. ಎಸ್. ಬೇಣ್ಣೆ ಬದಗಿಸುತ್ತಿದ್ದಾರೆ.

ಸಂಯೋಜಕರಾಗಿ ಡಾ. ಜಗದೀಶ್ ಆರ್. ಎಮ್., ಸಹ ಸಂಯೋಜಕರಾಗಿ ಡಾ. ರೇಣುಕಾ ಸಾಗರ್ ಮತ್ತು ಆಯುರ್ ಬೈಗ್ ಎಂ

ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತಿದ್ದಾರೆ. ಮಂಜುನಾಥ್ ಕೆ ಕೋರ್ಸ್ ಕಾರ್ಯದರ್ಶಿಗಳಾಗಿ ಸೇವೆ

ಸಲ್ಲಿಸುತ್ತಿದ್ದಾರೆ ಎಂದು ಅವರು ತಿಳಿಸಿದ್ದಾರೆ.



ಬಳ್ಳಾರಿ ಇನ್‌ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಟೆಕ್ನಾಲಜಿ & ಮ್ಯಾನೇಜ್‌ಮೆಂಟ್, ಬಳ್ಳಾರಿ

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT, BALLARI

An Autonomous Institute under VTU, Belagavi

ONE WEEK ATAL FDP 2025-26 ON

Smart & Sustainable Agriculture

Leveraging AI, IoT & Big Data for Societal Impact

Resource Persons: Premier Universities (IIT, NIT, Central, State & Industries)

15-20, September 2025 | Venue: BITM, Ballari

Sponsored by: ATAL (AICTE Training & Learning Academy)
Organized by: Department of CSE (Data Science), BITM

Mr. Manjunath K Course Secretary	Dr. Renuka Sagar Mr. Azhar Baig M Co-Coordinator	Dr. Jagadish R. M Prof. & Coordinator	Dr. Aradhana D Prof. & Head, CSE(DS)	Dr. R.N Kulkarni Dean & Head, CSE	Dr. B. S. Khened Vice-Principal	Dr. Yadavalli Basavaraj Principal	Mr. Y.J Prithviraj Bhupal Director	Dr. Yashvanth Bhupal Chairman
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Inauguration Photos









Day 1: Dr. Tripti Swarnkar (NIT Raipur),

IMPORTANCE OF AGRICULTURE IN INDIA

- Contributes **~18% to India's GDP (2023)**.
- Employs over **40% of India's workforce** – major livelihood source in rural areas.
- India ranks among the **top 3 global producers** of rice, wheat, pulses, fruits, and vegetables.
- Supplies raw material for industries: textiles (cotton, jute), sugar, dairy, etc.
- Plays a key role in food security for **1.4 billion people**.

Agriculture Is the Biggest Employer in India
Share of workers in India, by broad industry of work (2021–22)

Industry	Share of workers (%)
Agriculture	45.1%
Construction	11.6%
Trade, hotel & restaurants	12.1%
Other services	12.6%
Manufacturing	11.6%
Transport, storage & communications	3.4%
Electricity, water, etc.	0.6%
Mining & quarrying	0.2%

Source: Ministry of Statistics and Programme Implementation
statista

ATAI CSEDS
GPS Map Camera

Ballari, Karnataka, India
Ballari, Ballari, Karnataka 583104, India
Lat 15.168507, Long 76.850584
09/15/2025 11:20 AM GMT+05:30
Note: Captured by GPS Map Camera



Mrs. Kaveri Bommanakatti (Dilait Pvt. Ltd., Bengaluru) – Delivered sessions on AI-based crop monitoring, disease detection (practical), and crop monitoring using Big Data.



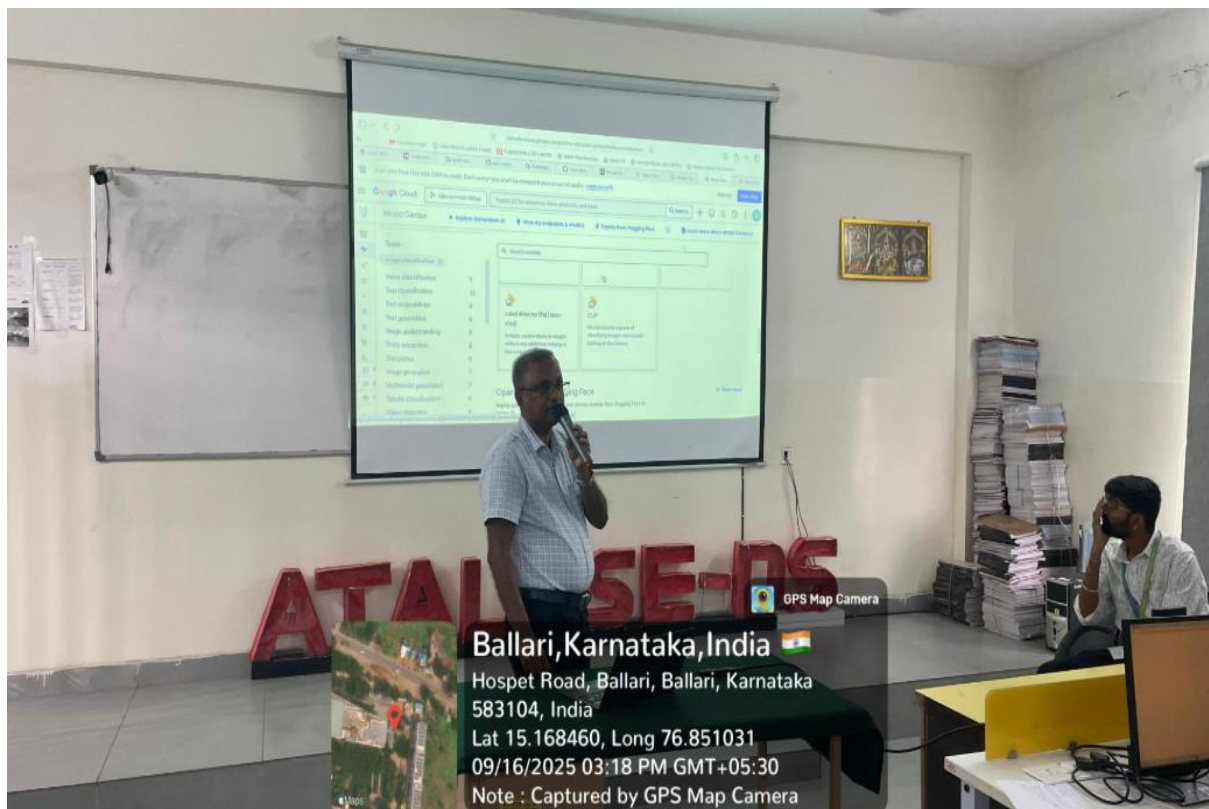
Day 2: Dr. Sharangouda Hiregoudar – Nanotechnology in food processing,



Dr. Suresh Y – AI-based agricultural practices,



Mr. Hemant Kumar – Google Cloud and Machine Learning (practical).



Day 3: Dr. Rupam Kumar Sharma – Genetic mapping and QTL mapping in maize (practical),



Dr. Renuka Sagar – Drone-based crop disease detection.



Day 4: Mr. Vishwanath Gowda H, Chief Technical Security Officer, Commonwealth Bank of Australia, delivered an insightful session on “Smart & Sustainable Agriculture Leveraging AI, IoT, Big Data, Cyber Security, and Cloud (AWS)”



Dr. Aradhana D (BITM) – Fruit quality prediction using Computer Vision,



Dr. Jagadish R M-



Day 5: An industrial visit was organized to Hagari Krishi Vigyan Kendra,







Dr. Siba Narayan Swain (Professor, IIT Dharwad) – Hands-on session on “Role of AI and Blockchain in Building Next Generation Agri Technology.”





Day 6: Dr. Manjunath Kumar B.H. (Professor & HoD, SJCE Institute of Technology, Chikkaballapur) – IoT and Edge AI in Smart Farming,





Ms. Tejashwini S.G. (Accenture, Bengaluru) – Hands-on session on Agricultural Data Analytics using Power B



Final Day: The FDP concluded with the Valedictory Function, where the event summary was shared, and certificates were distributed to participants by AICTE ATAL Academy.



Patrons:

- Dr. Yeshwanth Bhoopal (Chairman, BITM),
- Prof. Y.J. Pruthviraj Bhoopal (Director),
- Dr. Yadavalli Basavaraj (Principal),
- Dr. B.S. Khened (Vice Principal).

Conveners:

- Dr. Aradhana D (HoD, CSE-DS),
- Dr. R.N. Kulkarni (Dean & HoD, CSE).

Course Coordinators:

- Dr. Jagadeesh R.M.,
- Dr. Renuka Sagar,
- Mr. Azhar Baig M.

Course Secretary:

- Mr. Manjunath Kammar.

This week-long FDP concluded successfully, equipping participants with **practical insights into the application of modern technologies in agriculture.**

Information to Participants through What's App

The screenshot displays the WhatsApp application interface. On the left, the 'Chats' list shows several conversations:

- BITM_ATAL_FDP_Official** (08-10-2025): Bitm Dr. Jagadish: Please check your A/C...
- ATALFDP PARTICIPANTS BIT...** (21-09-2025): You reacted 👍 to "Good Morning dear..."
- ATALFDP-BITM-DataScience...** (20-09-2025): ✓ You: 📺 Video
- ATAL- Student_volunteers** (20-09-2025): ~SAMIUN HANI reacted 🤝 to "📺 Video"

Below the chat list, a message from **Bitm Manjunath Kammar** is visible, including a PDF file named **ATAL FDP 20250912 121323 0000.pdf**.

The right pane shows a detailed view of the **ATALFDP PARTICIPANTS BITM-25(DATA SCIENCE)** chat. It features a video call in progress with a duration of 00:06. Two messages are visible:

- ~Sr!** (+91 98860 64926): "I extend my sincere gratitude to Aradhana Ma'am, Jagadish Sir, Azhar Sir, Manju Sir, and the entire organizing team for their outstanding efforts in making this FDP a resounding success. The meticulous planning and flawless execution have left a lasting impact." (08:15, 2 reactions)
- ~Naaz** (+91 6364 156 563): "Good Morning dear Colleagues, I am Ambreen from MBA Department, I extend my gratitude to HOD, and faculties of CSE-DS for conducting ATAL FDP and for Good hospitality, special thanks to Dr. Jagadish for accepting my invitation for attending FDP. Where i have learnt my things namely 1. How agriculture can be empowered in this challenging world and we can educate farmers about AI, IOT, Edge of AI and Smart farming, 2. About perception Layer, Network Layer, and Decision Layer. 3. And How sensor will sense data that will be sent to communication Technology and to Clouds lastly information will be delivered to User/farmer to take action. 4. How crops health can be predicted. 5. and industrial visit was very good and last but not the least lunch was very good. Thank all for your good co-ordination and Teamwork in Execution of the FDP. Thank you all." (08:31, 3 reactions)

Social Media Links:

<https://www.facebook.com/share/p/16gzf8FPYk/>

<https://www.facebook.com/share/p/16sVxSRaf3/>

<https://www.facebook.com/share/p/1GUiqQDW4M/>

<https://www.facebook.com/share/p/1BGmep6qLN/>

<https://www.facebook.com/share/v/1LvPyq7oaj/>

<https://www.facebook.com/share/p/1GiKB54fBA/>

Schedule of ATAL

FDP Application Number : 1742568164

Title of the FDP: Smart and Sustainable Agriculture: Leveraging AI, IoT, and Big Data for Societal Impact

FDP Start Date : 15/09/2025

FDP End Date: 20/09/2025

DAY1	DAY2	DAY3	DAY4	DAY5	DAY6
9:00-9:30 Inauguration	Organizing Institute: BITM BALLARI				
9:30 to 12:00 Session-1 Data-Driven Agriculture: AI and Big Data for Sustainable Growth Dr. Tripti Swarnkar Professor Department of Computer Applications National Institute of Technology, Raipur Raipur-492010, Chhattisgarh, India 9437130794 tswarnkar.mca@nitrr.ac.in Exp: 25	9:30 to 12:00 Session-3 Application of Nanotechnology in Food Processing Dr. Sharanagouda Hiregoudar Professor and Head, Dept. of Processing and Food Engineering and Centre for Nanotechnology UAS, Raichur 584104, Karnataka, India 9448433678 drsharan.cae@uasraichur.edu.in Exp: 25	9:30 to 12:00 Session-5 Role of computational model in mapping genotype interaction to phenotype traits in reference to Maize plants Dr. Rupam Kumar Sharma Professor Department of Computer Science Engineering, Rajiv Gandhi University (Central University) Arunachal Pradesh 8486446181 rupam.sharma@rgu.ac.in Exp:18	9:30 to 12:00 Session-7 Big Data, and advanced analytics Dr. Dinesha H A Founder chairman & Director, Cybersena(R&D) India Pvt, Ltd.Bangalore 7767076988 director@cybersenamd.com Exp:20	Industrial Visit Krishi Vigyan Kendra, Hagari, Ballari, Karnataka under the administrative control of University of Agricultural Sciences, Raichur with an 100 per cent financial assistance by the ICAR, New Delhi.	9:30 to 12:00 Session-10 IoT and Edge AI in Smart Farming Dr. Manjunatha Kumar B H Professor & Head of the Department CSE, S J C INSTITUTE OF TECHNOLOGY, Chickballapur- 562101, Karnataka. 9900600756 manjunathabh@sjcit.ac.in Exp: 25
12:00-1:00 Article Discussion An Adaptive AI-Enhanced Technique for Crop Monitoring using IoT Dr. Jagadish R M Professor, Department of CSE(Data Science), Ballari Institute of Technology & Management, Ballari 9986595484 jagadishrm@bitm.edu.in Exp:17	12:00-1:00 Article Discussion Sustainable AI-Based production agriculture : Exploring AI Applications in agricultural Practices Dr. Suresh Y Professor & Head, Department of CSE(Artificial Intelligence), Ballari Institute of Technology & Management, Ballari 9113854919 Dr.Suresh@bitm.edu.in Exp:13	12:00 – 1:00 Article Discussion Drone Based crop disease detection using ML Dr. Renuka Sagar Professor , Department of Artificial Intelligence & Machine Learning, Ballari Institute of Technology & Management, Ballari 9986164678 renukasagar@bitm.edu.in Exp:16	12:00 – 1:00 Article Discussion Fruit Quality Prediction using computer vision Dr. Aradhana D Professor & Head, Department of CSE(Data Science), Ballari Institute of Technology & Management, Ballari 9986666094 aradhana@bitm.edu.in Exp:27		12:00-1:00 Hands-On Mrs. Tejashwini S.G Team lead Accenture, Bangalore 9480500128 sgtejashwani@gmail.com Exp:13

1:00-2:00 PM Lunch 2:00 – 4:30 Session-2 AI-Driven Crop Monitoring and Disease Detection Kaveri Bammanakatti, Software Engineer DLithe Consultancy Services Pvt. Ltd. Bengaluru 8970156476 kaveri@dlithe.com Exp:7	1:00-2:00 PM Lunch 2:00 – 4:30 Session-4 Google Cloud and ML Offerings Mr. Hemanth Kumar, Principal Consultant Cloud Architecture, Wipro Solutions Private Limited, Bangalore 99452 15740 Hemanth.kum@wipro.com Exp:19	1:00-2:00 PM Lunch 2:00 – 4:30 Session-6 Advancements in Quantitative Trait Locus (QTL) Mapping for Maize Traits Using Computational Models Dr. Rupam Kumar Sharma Professor Department of Computer Science Engineering, Rajiv Gandhi University(Central University) Arunachal Pradesh 8486446181 rupam.sharma@rgu.ac.in Exp: 18	1:00-2:00 PM Lunch 2:00 – 4:30 Session-8 Empowering Smart and Sustainable Farming through IoT Innovations Mr. Raymond Irudayaraj I, Technical Lead, Raylog Autonetics Pvt. Limited, Bengaluru, Karnataka 9972803296 raymond.jhts@gmail.com , Exp: 13	1:00-2:00 PM Lunch 2:00-4:30 Session-9 Role Of AI And Block chain In Building Next Generation Agri Technology Dr. Siba Narayan Swain, Professor, Department of Computer Science Engineering, Indian Institute of Technology Dharwad, Karnataka - 580011, India 8754502045 sibaswain@iitdh.ac.in Exp:15	1:00-2:00 PM Lunch 4:30 – 5:30 Hands-On Mrs. Tejashwini S.G Team lead Accenture, Bangalore 9480500128 sgtejashwani@gmail.com Exp:13
4:30 – 5:30 Hands-On Kaveri Bammanakatti, Software Engineer DLithe Consultancy Services Pvt. Ltd. Bengaluru 8970156476 kaveri@dlithe.com Exp:7	4:30 – 5:30 Hands-On Mr. Hemanth Kumar, Principal Consultant Cloud Architecture, Wipro Solutions Private Limited, Bangalore 99452 15740 Hemanth.kum@wipro.com Exp:19	4:30 – 5:30 Hands-On Dr. Rupam Kumar Sharma Professor Department of Computer Science Engineering, Rajiv Gandhi University(Central University) Arunachal Pradesh 8486446181 rupam.sharma@rgu.ac.in Exp: 18	4:30 – 5:30 Hands-On Mr. Raymond Irudayaraj I, Technical Lead, Raylog Autonetics Pvt. Limited, Bengaluru, Karnataka 9972803296 raymond.jhts@gmail.com , raymond@raylog.in Exp: 13	4:30 – 5:30 Hands-On Dr. Siba Narayan Swain, Professor, Department of Computer Science Engineering, Indian Institute of Technology Dharwad, Karnataka - 580011, India 8754502045 sibaswain@iitdh.ac.in Exp:15	4:00 – 5:00 MCQ , Reflection Journal & Valedictory Session

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