

# Curriculum Vitae | Dr J.K. Sahu (Air Commodore (Retd))

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## AREAS OF ACADEMIC INTEREST:

*HR Analytics, Research Methodology, System Analysis, Project Management, Mathematical Modelling & Artificial Intelligence*

## EDUCATION | PROFESSIONAL QUALIFICATIONS

**Doctor of Philosophy (Ph.D.), Management, Leadership Development Strategy, Bharathiar Univ, Coimbatore, 2020**  
**Doctor of Philosophy (Ph.D.), Atmospheric Physics, Pune University, Pune, 1997**  
**Master of Philosophy (M. Phil.), Defence and Strategic Studies (1<sup>st</sup> Division, with distinction), Madras University, 2016**  
**Master of Philosophy (M. Phil.), Management (1<sup>st</sup> Division, with distinction), Osmania University, Hyderabad, 2014**  
**Master of Philosophy (M. Phil.), Meteorology (1<sup>st</sup> Division, with distinction), Bharathiar University, Coimbatore, 1999**  
**Master's in Management Science (M.M.S), (1<sup>st</sup> Division, with distinction), Osmania Univ, Hyderabad, 2012**  
**Post-graduate Diploma, Personnel Management and HR (1<sup>st</sup> Div, Dist), Symbiosis International University, Pune, 2009**  
**M.Sc (Defence & Strategic Studies), (1st Division, with distinction), Madras University, Chennai, 2001**  
**PG Diploma in Meteorology, (1st Division, with distinction), Bharathiar University, Coimbatore, 1992**  
**Master of Science, Physics (1<sup>st</sup> Division), Utkal University, Odisha, 1985**

## DEFENCE SERVICE COURSES:

- Defence Services Staff College
- Higher Defence Management Course
- National Defence College

## ACADEMIC LEADERSHIP PROFILE

In a distinguished career of 33 years in the Meteorological Branch of the Indian Air Force, Dr J.K. Sahu has had remarkable success as an educator, administrator and institution builder. He has a deep understanding of the need to develop India's higher education capabilities and has been recognised for strengthening teaching, research and training programmes to raise the organisation's academic stature.

**Dr Sahu's teaching and advisory work with MBA students has been focused on HR Analytics, Operations Management, System Analysis, Statistics and Research Methodology**, in such tenures as Head of Department for Statistics and Operations Research. His academic expertise includes quantitative techniques, relational database management (Oracle Database), technologies such as AI and ML, and data analytics (**SPSS, R and Python**).

Dr Sahu holds **doctorate degrees, in Atmospheric Physics and in Management**, and is a member of the All India Management Association and the Board of Studies of Bharathiar University's Department of Meteorology. He has authored **26 papers**, in such fields as atmospheric sciences and military-related management, ethics and leadership, which have been published in national and international journals, and has guided **16 M.M.S.** theses.

As Principal Director (second-in-command in the branch) at Air HQ in New Delhi till 30 Nov 2021, he provided vision and guidance for academic, administrative and strategic operations initiatives across 67 airbases in the country with a culturally diverse team of **1,700 professionals**. Under his leadership, key research partnerships have been established with IIT Delhi, the Indian Institute of Tropical Meteorology in Pune, and the National Centre for Medium-Range Weather Forecasting (under the Ministry of Earth Sciences).

## **ADMINISTRATIVE LEADERSHIP PROFILE**

An influential communicator, he has managed governance and policy planning matters at the highest levels, liaised effectively with external institutes, ministries, departments, and think tanks, and ensured relevance, efficiency and impact of strategic initiatives. At present, he is the Principal Directorat Air HQ in New Delhi, providing vision and guidance for administrative, planning and capability development programmes across airbases in the country. As Chair of various budget, governance and procurement committees, he oversees projects and negotiations, involving contracts worth **10 crore INR**, to introduce new technologies and develop infrastructure. In addition to managing professional relationships across institutions and ministries, he has promoted collaboration at the international and national levels, coordinated activities of multiple agencies and working groups, and mobilised resources to meet national priorities.

## **PROFESSIONAL APPOINTMENTS AND CAREER HIGHLIGHTS**

### **Education Management, Teaching and Mentoring**

#### **Jun 2017 – Dec 2019: Head of Department, Operations Research, College of Defence Management, Secunderabad**

Dr Sahu oversaw curriculum development, directed research in management subjects, and taught Operations Research and System Analysis to professionals from all three defence services for the Master's in Management Science programme. The college, which has the A+ NAAC accreditation, is affiliated with Osmania University in Hyderabad. Taking a strategic approach to improving assimilation and understanding of technical concepts and their applications in real life, he focused on actual case studies, enabling students at all levels to recognise practical applications and solve operations problems holistically. Under Dr Sahu's guidance, the department faculty developed a case study titled "Air Maintenance for Army in Northern Command", which was declared the **Best Case Study** at an international seminar organised at IIMA Ahmedabad in 2019 by the Operations Research Society of India. Competitors included companies such as TCS.

#### **Nov 2015 – Jun 2017: Chief Instructor, Air Force Administrative College, Coimbatore**

During this tenure, Dr Sahu conducted M. Sc., Post-graduate Diploma, M. Phil., and Ph.D. programmes for IAF officers, emphasising the use of descriptive and inferential statistics to improve results, and was involved in setting up a laboratory for numerical weather prediction modelling. The faculty, which is affiliated with Bharathiar University, was assessed by the National Assessment and Accreditation Council (NAAC), resulting in an **'A'** rating for the college. With the help of a grant from the Science and Engineering Research Board (SERB), he also organised and conducted a month-long workshop on "Observational and Computational Tools for Nowcasting (OBSCON)" for scientists pursuing M. Tech and M. Sc. programmes, which raised the profile of the IAF.

#### **May 2011 – Dec 2014: Head of Department, Statistics, College of Defence Management, Secunderabad**

Besides teaching Statistics and Research Methodology to students of the M.M.S. programme, Dr Sahu took the initiative to lead a technology change project for the institute's library. He led digitisation of all documents including dissertations, journals and publications, implemented RFID and Library Management software, and facilitated online subscriptions through ProQuest and EBSCO.

### **Administration: Organisational, Operations and Academic**

#### **01 Jan 2020 – 30 Nov 2021: Principal Director (Meteorology), Air HQ**

Dr Sahu provided leadership to a team of 30+ senior professionals, actively involved in augmenting academic expertise in the field of weather forecasting for aviation operations, devising sustained initiatives to advance technical capabilities, and maintaining an up-to-date numerical weather prediction system. Through planning, collaboration and consensus-building, he has increased the intake of qualified specialists and created an environment of focused training, research and development to bridge the gap between concepts and applications. As Chair of budget, governance and procurement committees, he oversees projects and negotiations, involving contracts worth 10 crore INR, to introduce new technologies and develop infrastructure.

## **May 2009 – May 2011: Director, Air Staff Inspection, Meteorology**

As a member of the Directorate of Air Staff Inspection (DASI), the IAF's highest inspection authority, Dr Sahu assessed and rated all meteorological branches, departments and personnel across India, on parameters such as performance, readiness, and compliance to the procedures of the World Meteorological Organization.

## **INTERNATIONAL EXPERIENCE**

As a meteorologist with the Indian contingent of the UN Peacekeeping Mission in the Congo, Dr Sahu enhanced the IAF's contribution by establishing the first weather observation and forecasting centre in Goma. With a view to building technical capabilities in the region, he authored the first-of-its-kind manual on African climatology, which was released in Kinshasa by the **UN's Task Force Commander**. Dr Sahu has been a key member of Indian teams that participated in Cope Thunder / RED FLAG-Alaska, a multi-nation air combat exercise, and was one of the crew members that executed the **IAF's mission to the North Pole**.

## **CHANGE MANAGEMENT**

**Jul 1998 – Apr 2000: Officer-in-charge, Chief of the Air Staff's Computer Centre**

**Apr 2001 – Jul 2004: EDP Manager, Air Officer Personnel, Branch Computer Centre**

During these early years, Dr Sahu played a pivotal role in transforming technology capabilities across the organisation with a trained team, leading projects to transition the HR database management system from FoxPro to the Oracle platform, digitize personnel reports, and introduce an online assessment system, while ensuring strong network security along with maximum system availability.

## **DISASTER MANAGEMENT ROLE**

- (a) Camp Commander of Indian Air Force to build-up **Uroosa** and **Uri** Villages of **J&K** post **Earthquake** in 2005.
- (b) Participated in United Nation Peace Keeping Force at Goma, **Democratic Republic of Congo** in 2004-05.

## **PAPERS ON DISASTER MANAGEMENT**

1. "Role of Armed Forces in India's Disaster Management Plan", International Seminar on Disaster Management, Hyderabad, 2012.
2. "Role of weather during CBRN Threat", National Seminar on CBRN Threat and Response: College of Military Engineering, Pune, 2012.
3. "Role of Armed Forces in India's Disaster Management Plan: A case study on IAF's efforts during the earthquake in J&K", International Seminar on Disaster Management, Hyderabad, 2012.

## **AWARDS AND COMMENDATIONS:**

Awarded rating of Category 'A' Weather Forecaster in 2016; this was revalidated in <b>2018</b>
Honoured with Commendations from the <b>Chief of the Integrated Staff Committee (CISC)</b> in <b>2014</b>
Honoured with Commendations from the <b>Chief of the Air Staff (CAS)</b> in <b>2007</b>
Recognised for efforts in the Congo by a Medal from the UN and Appreciation from the <b>Commander, UN Peacekeeping Force</b> in <b>2005</b>
Honoured with Commendations from the <b>Chief of the Air Staff (CAS)</b> in <b>2000</b>
Honoured with Commendation from the <b>Air Officer Commanding in Chief, Training Command</b> , in <b>1998</b>

## FDP/SPECIALISED TRAINING WITH IIMs/OTHER INSTITUTES:

Organisation	Details of Training
MDI Gurgaon	Independent Director Course
IIM, Bangalore	FDP on Data to Decisions
IIM, Calcutta	MDP on Managerial Effectiveness
IIM, Ahmedabad	FDP on Leadership and Change Management
IMA	Advances in Research Methods and Data Analytical Tools
BIMTECH	Advance Multivariate Analysis
Microsoft	Analyzing Data with Power BI and Excel
CDAC	GIS & Web Design
Softflock Technologies	Artificial Intelligence, Machine Learning using Spotflock Studio & Python
C-LABS	Leadership & Behavioural Science Capsule
AIMT	Resource Person : Research Methodology

## Research Credentials: Papers Published and Presented

### Technical:

4. "Statistics as a tool for Weather Forecasting Part-II", *Vatavaran*, Volume-52, Issue-I, Dec 2016, page 74-81, ISSN 0970-3543.
5. "Statistics as a tool for Weather Forecasting Part-I", *Vatavaran*, Volume-51, Issue-I, June 2016, ISSN 0970-3543.
6. "Role of Armed Forces in India's Disaster Management Plan", International Seminar on Disaster Management, Hyderabad, 2012.
7. "Role of weather during CBRN Threat", National Seminar on CBRN Threat and Response: College of Military Engineering, Pune, 2012.
8. "Role of Armed Forces in India's Disaster Management Plan: A case study on IAF's efforts during the earthquake in J&K", International Seminar on Disaster Management, Hyderabad, 2012.
9. "High-Resolution Numerical Weather Prediction for Aviation Weather Services", *Vatavaran*, Volume-35, Issue-I, June 2011, page 50-62, ISSN 0970-3543.
10. "Challenges of Snow forecast in the Kashmir Valley", *Vatavaran*, Volume-33, Issue-2, Dec 2009, page 48-65, ISSN 0970-3543.
11. "Challenges of Snow Forecast over Srinagar Valley", National Seminar "Emerging Trends in Space and Aviation Meteorology", New Delhi, 18 – 19 Feb, 2008.
12. "Use of Model Generated Parameters for Forecasting Meso-Scale Thunderstorms", *Vatavaran*, Volume-31, Issue-I, June 2007, page 74-81, ISSN 0970-3543.
13. "Real-time Snow Forecast using NWP Technique", TROPMET 2007, Indian Institute of Tropical Meteorology, Pune, 2007
14. "ITCZ and its influence on weather over African Subcontinent Forecasting", Manual published through United Nations Peacekeeping Force (MONUC), Congo, 2006.

15. Use of Stability Indices for forecasting Thunderstorms over Northwest India”, *Vatavaran*, Volume-20, Issue-I, June 1997, page 30-42, ISSN 0970-3543.
16. “Problems of Automated Thermodynamic Analysis”, *Vatavaran*, Volume-17, Issue-I, June 1995, page 25-27, ISSN 0970-3543.
17. “A study on the Thermodynamic conditions of Atmosphere for Forecasting Thunderstorms over Northwest India”, *Vatavaran*, Volume-19, Issue-I, Dec 1996, page 27-35, ISSN 0970-3543.
18. “Forecasting Probability of Local Severe Storm using Single Station Data”, 6 IMSC, Galway, Ireland, June’ 95.
19. “Single Station Forecasting of Thunderstorm from Large Scale Features”, TROPMET, NRSA Hyderabad, 1995.
20. “Forecasting of Meso-Scale Convective Systems using Model output data”, National Space Symposium, Dec 20-24, Trivandrum, 1994.
21. “Personal Computer in Met: A Computer programme for calculating Richardson’s Number and Turbulence”, *Vatavaran*, Volume-11, Issue-4, Dec 1988, page 74-81, ISSN 0970-3543.

### **Management and Leadership:**

1. “Leadership Development Strategy of Armed Forces: An Analytical Study”, *DurDrishthi*, Defence Management Journal, ISSN 0976-7347, Vol-XIX, Issue 1, Dec 2019.
2. “Evolving Strategy for an Efficient Military Organisation using A’WOT tool (Integrating SWOT and AHP)”, *DurDrishthi*, Defence Management Journal, ISSN 0976-7347, Vol-XIX, Issue 1, Aug 2019, pages 60-69.
3. “Ethics, Moral and Values in the Context of Military Leadership for Gen-Y: An Indian Armed Forces Perspective”, *International Journal of Management Studies*, ISSN (Print) 2249-0302 ISSN (Online) 2231-2528, Vol-VI, Issue-2(1), April 2019, pages 38-47.
4. “Triguna Philosophy: An Armed Forces Perspective”, *International Journal of Research in Humanities, Arts and Literature*. (IMPACT: IJRHAL), ISSN (P): 2347-4564, ISSN (E): 2321-8878; Vol-7, Issue 3, Mar 2019, pages 15-28.
5. “Aspects of Emotional Intelligence on Effective Leadership: An Empirical Study on the Indian Armed Forces”, *International Journal of Research in Humanities, Arts and Literature*. (IMPACT: IJRHAL), ISSN (P): 2347-4564, ISSN (E): 2321-8878; Vol-7, Issue 2, Feb 2019, pages 261-274.
6. “Leadership in the Armed Forces: Group Effectiveness and Performance”, *DurDrishthi*, Defence Management Journal, ISSN 0976-7347, Vol-XVIII, Issue 2, Dec 2018, pages 67-75.
7. “An Exploratory Study of Motivation within Working Environment of Armed Forces”, *AIMT Journal of Management*, Vol-7, Issue II, Jul – Dec 2018, ISSN: 2277-4076, pages 09-19.
8. “Ethics and Values in the Indian Armed Forces, an Analytical Study”; report for the Indian Armed Forces, 2014.