

Dr. Joydeb Chattopadhyay, FIE

Professor (ECE)

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Career Highlights

32 Years of combined research, design, development and product deployment experience in DRDO , Ministry of Defence, Govt. Of India.

4 years Defence and Research and Development Laboratory, Hyderabad

Design of Launch Computers for real- time data acquisition and Control.

- **Platform : Multi-Bus I, Distributed real-time computing in Star Topology.**

11 years Research Center Imarat, Hyderabad (Group Head)

Design, Development and Deployment of Launch Computers.

- **Platform : Multibus –I, MultiBus – II, PC AT. Intel family**
- **Operating System: iRMx, PSOS, VxWorks, Linux.**
- **Languages: PLM, Pascal, C, C++.**
- **Interface Hardware development using both analog and digital Ics..**
- **System Test and validation.**
- **Design, Development and Deployment of Simulators for system testing and training to the user.**
- **Design, Development and Realisation of MIL 1553 based multimode Avionics Architecture.**

12 years Advanced System Laboratory, Hyderabad (Group Head, Project Director Agni- 1, Technology Director , Associate Director)

Realisation of Multiple Launch Computers in different Mobile systems.

- **Implemented security features and Biometric authentication System.**
- **Distributed Computing in Ethernet and Mil 1553B Bus Architecture**
- **Fault Tolerant Computing in Single and Distributed system**
- **Interfacing with several heterogeneous system with different protocol**
- **Relaiisation of Automated Test Jigs with PXI based system .**
- **Integration and operationalization of LC in various mobile platform.**

Realisation of AGNI one Missile as Project Director

- **Design aand Development o of Broad band transceiver and antenna system**
- **Design of Ka Band telemetry**

Research Interests

Embedded Systems,
Fault Tolerant
Architecture,
5 G Technology, Small
Satellite, Secured
Software Defined
Networking, Software
Defined Radio
And
Internet of Things

Courses Taught

Software Defined
Radio, Embedded
Systems,
Microprocessor and
Microcontroller.

3 years Director DRDO, Delhi

- **Design , Development and Deployment of Multi layer Secured WAN**
- **Infrastructure development and automation.**
- **Multi layered infrastructure security System.**

Research Projects

- **Fault tolerant computing in distributed system**
- **Speech recognition for launch computer application**
- **Linux based Secured Dual Redundant embedded system**
- **Triple Modular redundant (TMR) computers**
- **Hybrid Non Linear Fault Modeling for Missile System**
- **QT based GUI with Dual Modular Redundancy**
- **Client Server based Fault Tolerant Architecture for Launch Computer Application**
- **Simulated Architecture for High Speed 1553B Avionic Bus**
- **Simulated Architecture for DRFM based broad band transceiver**
- **Study and Analysis of Several Network Architecture**
- **Feasibility Study of Implementation of Software Defined Network in multilayered Architecture**
- **Feature Extraction through IR detection for Infrastructure Security**
- **Design of a Mechanical Robotic Arm with Intelligent Gripper Mating and Bolt Fixing**

2 years as Dr. Raja Ramana DRDO Distinguished Fellow

- **Worked as Consultant to multiple DRDO Projects.**

1 years of academia teaching (U.G and P.G) experience

- **Sreenidhi Institute of Science and Technology (SNIST), Hyderabad, India**
- **Research work with students : Launch of Weather Monitoring Balloon from TIFR Balloon Facility. This will lead to to Cubesat Launch.**
- **Initiated research projects in SERB, DST and RCI.**

DISSERTATIONS

1. **M. Tech Project on “ Data Compression in Robot Vision “**
2. **PHD work on “Studies In Fault Tolerant Computing In Hard Real-time Asymmetric Distributed Mission Critical System”**

Books and Publications : Internal reports and Training Handbook for users

Awards :

- **Agni Award for Excellence in Self –Reliance for the year 1999.**
 - **Technology Group Award for Development of Redundant System, 2002**
 - **Commendation Certificate by SA to RM on National Science Day, Feb 2005.**
 - **DRDO Award For Path-breaking Research/outstanding Technology Dev. 2007**
 - **DRDO Scientist of the Year 2010.**
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