

RAMAKALYAN AYYAGARI
ASSISTANT PROFESSOR

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Brief Academic Record:

- **B.E. Electronics & Communications, Andhra University, 1990**
- **M.E. Control Systems & Engineering, Andhra University, 1993**
- **Ph.D. Control Theory, IIT Delhi, 2000**

Research Areas:

- **Mathematical Control Theory**
- **Numerical Linear Algebra**
- **Algorithms and Complexity Theory**

Doctoral Thesis:

- **Robust Output Feedback Controllers for Nonlinear Systems.**

Research Papers:

- [**Significant Papers**](#)

Books:

- [**Control Engineering: A Comprehensive Foundation**](#)
Vikas Publishing House, New Delhi, 2003, ISBN 81 - 259 - 1432 -
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- [**Linear Circuits: Analysis & Synthesis**](#)
Oxford University Press, India & UK, 2005, ISBN 0 - 19 - 567001 -
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Book Reviewing:

- **Reviewed the book S.V. Emelyanov, and S.K. Korovin, "Control of Complex and Uncertain Systems: New Types of Feedback," Springer Verlag London, 2000 for IEEE Control Systems**

Magazine. This review appeared in IEEE CSM vol. 22, no. 1, February 2002.

Journal Reviewing:

- **Serving as reviewer for**
 - **IEEE Tr. Neural Networks**
 - **SADHANA (journal of Engineering Sciences of the Indian Academy of Sciences)**
 - **Journal of Systems and Control Engineering (JSCE) published by the Institute of Mechanical Engineers (IME, UK)**

Projects/Awards:

- **DST Young Scientist Award (2002 – 2005): “Robust and Efficient Algorithms for Modern Control Systems”**
- **Summer Research Fellowship of the Indian Academy of Sciences (2005): “Density Functional Theory and Quantum Control of Systems.” (Worked at the National Chemical Laboratory (NCL) Pune on with Professor BD Kulkarni, Head of Chemical Engineering Division.)**
- **UKIERI (www.ukieri.org) Major Award (2007 – 2011): “Towards Reliable and Smart Air-Vehicles.” This is a UK – India collaborative project awarded to Prof. Ian Postlethwaite et. al., Control & Instrumentation Research Group at the University of Leicester, Prof. M. Seetharama Bhat, Dept. of Aerospace Engg. at the Indian Institute of Sciences (IISc. Bangalore), Dr. J.R. Raol, Flight Mechanics & Control Division at the National Aerospace Laboratories (FMCD, NAL Bangalore), Prof. B. Bandyopadhyay, Interdisciplinary Programme in Systems & Control Engg., at the Indian Institute of Technology Bombay (IIT Bombay, Mumbai), and Dr. A. Ramakalyan, Dept. of Instrumentation & Control Engg., at the National Institute of Technology (ICE, NIT Tiruchirappalli).**

Visiting Position:

- **Visited the Institute of Mathematical Sciences (www.imsc.res.in) from 2001 – 2005 as an associate professor**

Citation:

- **Listed in Marquis Who's Who in Engineering (World and Asia Editions)**

Consultancy:

- **Control Education using LabVIEW – National Instruments, Bangalore**
- **Lab On Chip (LoC) – Xcyton Diagnostics, Bangalore**
- **Middleware for protocol based supervisory control in Intelligent Vehicle Highway Systems (IVHS) – SANKHYA Technologies, Chennai**

Courses teaching/taught:

- **Network Theory**
- **Microelectronics, Op-Amps**
- **Control Systems**
- **Digital Signal Processing**
- **Computer Control/System Identification (PostGraduate Level)**
- **Neural Networks (PostGraduate Level)**

Guest Lectures:

Statement on Research and Teaching:

Professional Membership:

1. **Institute of Electrical & Electronics Engineers (www.ieee.org)**
2. **Association for Computing Machinery (www.acm.org)**
3. **Society for Industrial and Applied Mathematics (www.siam.org)**

Other interests:

- **Mathematics:** Since my graduate studies I chose to do mathematics. In addition to my working in mathematical systems theory, theoretical computer science and related areas such as coding theory, econometrics etc., I teach mathematics to high school children. I am always interested in the following question: "Why don't students enjoy and appreciate mathematics as much as we might hope?"
- **Science Education:** I write articles along with my students to Resonance, a publication of the Indian Academy of Sciences,

on emerging techniques and ideas and innovative procedures for teaching specific concepts.

- **Music: I am an exponent of South Indian classical music. I am currently looking after the Carnatic Music Club of NITT called “Amruthavarshini”**
- **Reading: These days I read science non-fiction (e.g. Roger Penrose, Sept. 11: A Wake Up Call, A Beautiful Mind), philosophy & religion, and books/articles on fine arts, particularly classical music and dance.**
- **Travel: I enjoy travel and I have covered most parts of India.**