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# Venkatesh K S



## Office

### **Scientist**

Flosolver Unit  
National Aerospace Laboratories,  
HAL Airport Road, Kodihalli,  
Bangalore 560 017  
Karnataka, India

## Residence

# 8, "SRINIVASA"  
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## Objective

To apply ingenuity in every sphere of work and evolve effective ways of achieving every objective.

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## Education

### **M.Sc. *Electronics***

Mangalore University

First Class with SEP 2001  
Distinction

### **B.Sc. *Physics, Mathematics, Electronics, Sanskrit, English***

Bangalore University

First Class APR 1999

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## Master Thesis

**Title:** *Design and implementation of 64-BIT PCI-DPM card for Flosolver Mk-5.*

The objective of the project was to design and implement a Xilinx FPGA based 64 bit PCI card with Dual-port memory (DPM), for customised and proprietary data communication system of Flosolver's parallel computer. It involved:

- Circuit design of the PCI-DPM card in accordance of the PCI-SIG's PCI local bus specification.
- Co-ordination with the vendor for PCB layout & component assembly.
- VHDL coding for implementing the PCI protocol and logic required for interfacing the DPM, to integrate it with the customised back plane switch (FloSwitch).
- Hardware testing of the PCI-DPM card for detection by the server platform, configuration transactions and memory transactions.

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## Research Interests

My research interests are in design, development and hardware (particularly FPGA based) implementation of space application systems.

In particular, I am interested in the design of a customised FPGA based re-configurable mission/central computer for satellite/spacecraft applications. It involves the following:

1. Development of a new processor IP customised for space applications.
2. Enhancing the Floating point unit precision of the existing processor IP (like LEON, SPARC etc.) / the new IP (mentioned above) for achieving higher accuracy in computations performed onboard satellites/spacecrafts.
3. Design and development of customised FPGA based re-configurable mission/central computer with the enhancements mentioned above.

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## Professional Experience

### 11 AUG 2006 – till date

Designation : Scientist

Organisation : Flosolver Unit, National Aerospace Laboratories [NAL], Bangalore

Nature of work:

- Design, implementation, testing and integration of hardware circuits ( $\mu$ P and FPGA based) for customised & proprietary data communication system of Flosolver parallel computers.
- Co-ordination with vendors for outsourced projects.
- System integration and testing.
- Purchase & administrative responsibility.

### 14 JULY 2004 – 10 AUG 2006

Designation : Senior Research Fellow [SRF].

Organisation : Dept. of IT, MIT (Madras Institute of Technology), Anna University, Chennai

Deputed to : Flosolver Unit, National Aerospace Laboratories [NAL], Bangalore.

### 25 JUNE 2004 - 12 JULY 2004

Designation : Project Assistant

Organisation : Flosolver Unit, National Aerospace Laboratories [NAL], Bangalore.

### 3 MAR 2003 – 24 JUNE 2004

Designation : Project Scientist

Organisation : Flosolver Unit, National Aerospace Laboratories [NAL], Bangalore.

### 21 JULY 2002 – 2 MAR 2003

Designation : Trainee

Organisation : Flosolver Unit, National Aerospace Laboratories [NAL], Bangalore.

### 28 JAN 2002 – 16 JULY 2002

Designation : Supervisory Trainee [ selected by L&T medical systems through Mangalore University campus recruitment ]

Company : Larsen Toubro Limited [L&T], Medical Systems, Mysore

## **OCT 2001 – 25 JAN 2002**

Designation : Trainee

Organisation : Flover Unit, National Aerospace Laboratories [NAL], B'lore.

## **APR 2001 – SEP 2001 [ M.Sc. Academic Project work ( 6 months FULL TIME)]**

Designation : Project Trainee

Organisation : Flosolver Unit, National Aerospace Laboratories[NAL], B'lore

## **MAY 1999 – JULY 1999**

Designation : Associate HR consultant

Organisation : Chirantan Consultants (a HR consulting company), Bangalore

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## **Professional body memberships**

**MIETE** - Member, Institution of Electronics and Telecommunication Engineers

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## **Awards received**

National Aerospace Laboratories Foundation day Award for “***Excellence in Design, Development and project execution***” (group award).

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## **Selected Talks**

1. "Lure of parallel computing" - at Inter-University faculty meet for the electronics and related subject faculties of the universities of the Karnataka state, under the aegis of *Vision Group for Science and Technology (VGST)*, Govt. of Karnataka - The main talk was delivered by Dr. U N Sinha and only one part of the of talk on "*Floswitch technology*" was presented by me - MAR 2010
2. "Scientific and Engineering aspects of Flosolver Programme: A personal account" - Invited lecture at Auden Technology and Management Academy, Kanakapura, Karnataka - The main talk was delivered by Dr. U N Sinha and only one part of the of talk on "*Floswitch technology*" was presented by me - MAR 2010
3. "Flosolver series of computers" - at workshop on parallel computing for aerospace applications - jointly with G Sundara Rao, V V Jagannadham and D Anandaraj - SEP 2008
4. "Use of Xilinx FPGAs for customised parallel computing" - At Programmable solutions, India - jointly with Rajalakshmy S, D Anandaraj and V V Jagannadham - DEC 2007

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## References

**1. Dr. A M Khan** (*Professor and M.Sc. thesis supervisor*)

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**2. Prof. V Satyabhama** (*Professor, Physics & Electronics during B.Sc.*)

Retd. Professor and former Head,	e-mail	-	satyabhamasrinivasan@
Department of Physics,			yahoo.co.in
The National Degree College (Autonomous)	Phone	-	+91- 9448018572 (Mobile)
Basavanagudi, Bangalore – 560 004, India			

**3. Mrs. Rajalakshmy Sivaramakrishnan** (*Present employer and M.Sc. thesis supervisor*)

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## Personal Details

Date of Birth	12 <sup>th</sup> JULY 1978
Nationality	Indian
Passport Details	Passport No. : E 5072023
	Place of issue : Bangalore
	Date of issue : 01-09-2003
	Date of expiry : 31-08-2013
Marital Status	Single

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## Language skill

Kannada, Hindi, English (Speak, Read and Write)  
French (intermediary level)

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## Hobbies

Listening to music, photography, traveling and Long Motor-cycle rides