

Short Bio-data



Name: Solomon Raju Kota

Designation: Senior Principal Scientist (ALD) & Head, ICTD

Division: ALD & Information and Communication Technologies Division

Area of Expertise:

- ◆ Energy efficient highly reliable **safety-critical Avionics & Cyber Physical systems** design for (Hardware-Software Integration of SARAS Avionics Systems) Aerospace Applications
- ◆ Frameworks & System design for real-time **diagnosis and prognosis** of structural health monitoring (SHM); **Data Driven models** development; Using **Hybrid model** of AI /ML/DL and conventional methods;
- ◆ **Computing systems engineering** for various applications (**Cyber Physical Systems and Security**, IoT /WSN, Edge Intelligence, IoT Analytics & Cybersecurity, CPS-Industry4.0 & 5G and Beyond, SHM & Securing Critical Infrastructure AI /ML /DL (ANN/DNN / CNN etc.), Data Science algorithms, Signal, Image, video and audio processing).
- ◆ Real-time Embedded and High Performance Reconfigurable Computing Systems (RCS /RASIP /Reconfigurable Embedded Computing Systems (RECS) /SOC/Embedded /ASIP Systems): **System Design, System Architecture Optimization, Mapping & Scheduling and customization:** Techniques-- HW-SW Co-design; run-time partial reconfiguration; with real-time operating system support (using latest and advanced SOCs like MSP 430/432, ARM, RFSocS like CC2652R, CC1352R, Multiprocessors and FPGAs like Zynq, Zynq Ultrascale+RFSoc),
- ◆ **Real-time operating Systems** (VxWorks, QNX) and Operating Systems for ESD (Tigen, PetaLinux, RIOT, Contiki, TinyOS, Free RTOS, etc.)
- ◆ **5G and beyond wireless communication systems and concepts usage:** WSN based systems design, Energy efficient routing and MAC algorithms for IEEE 802.15.4, **Communication Protocols stack**, including **physical layer**, Digital/ Wireless /Mobile Communications

Specializations: Electronics, Communication and Computer Science & Engineering

Publications:

- ◆ **109**-Invited talks - 20 (IC) + 29 (NC) + 60 (National workshops /special programmes)
-Appendix-Inv.
- ◆ **01**-(Filed) Patents; **45** - Journals; *-Appendix-JP*
- ◆ **07**- Book Chapters; **82** - Conferences - 35 IEEE + 16 ACM /Springer /URSI/Procedia Computer Science (Elsevier) + 15 Others (IC) + 16 Others (NC/ Symposium/ Seminar)
-Appendix-BC&Conf.

Subject area willing to guide the student: Computer Science and Electronics