

ANANDA REDDY MEKALA, Ph.D

CONTACT INFORMATION	M.Ananda Reddy C/O M.Munaswamy Reddy 32-6-9, K M Agraharam BPO, (SBR puram post), Puttur-517583 Andhra Pradesh,India	Mobile: +91-8500807700 E-mail:anandareddy007@gmail.com Skype ID: live:1f54f091da72fb26
RESEARCH INTERESTS	RF and Microwave systems: Design and Analysis of Metamaterial Antennas and Filters, Dielectric Resonator Antennas (DRA), Substrate Integrated Waveguide(SIW), Method of Moments, Microwave Integrated Circuits. Antenna Engineering, THz Antennas, Wireless Power Transfer, Biomedical Sensors.	
PROFILE/ SUMMARY	Experienced in coding embedded systems, vxworks, C, C++ for developing software module. Developed Authentication module and provision parameters for VOIP CPE (DSL forum TR-104) in TR0-69 software development. Also experienced in wimax testing, configuration and management, wcl, basic voip, CARC CPE , sequans RD performance throughput tests.	
EDUCATION	NIT TIRUCHIRAPALLI , Tamilnadu, INDIA Ph.D., Electronics and Communication Engineering, October 2022 <ul style="list-style-type: none">• Specialization: <i>RF & Microwave Engineering</i>• Thesis Topic: <i>Design and analysis of metamaterial application in antenna and filters</i>• Adviser: Associate Professor Dr. Pandeewari R.• Area of Study: Microwave Engineering M.Tech., Electronics and Communication Engineering, August 2013 <ul style="list-style-type: none">• Electronics and communication Engineering (emphasis on Embedded systems, Neural Networks, Digital Logic Design and Digital Image Processing)• Thesis Topic: <i>Analysis of MIMO-MRC</i>• Area of Study: Embedded Systems B.Tech., Electronics and Communication Engineering, June 2005 <ul style="list-style-type: none">• <i>Distinction With Honors in Engineering</i>• Electronics and communication Engineering (emphasis on electromagnetics and digital computers)• Minor in <i>Computer and Information Systems</i> (programming and algorithms)	
QUALIFICATION/ EDUCATION	<ul style="list-style-type: none">• Bachelor of Engineering in Electronics and Communications from VTU University Belgaum with 78 % First class Distinction.• Intermediate Board of Education in Andhra Pradesh with 93.4% aggregate.• Secondary Education in Andhra Pradesh with 84.83 % aggregate.	
PROFESSIONAL EXPERIENCE	<i>Software Engineer</i> CDOT ALCATEL-LUCENT RESEARCH CENTER , Chennai, India <i>Assistant Professor</i> AITS , Tirupati, Andhra Pradesh <i>Assistant Professor</i> SVCE , Tirupati, Andhra Pradesh <i>Ph.D</i> NITT , Tiruchirapalli, Tamilnadu	2006 - 2010 2011 - 2014 2015 - 2016 2016 - 2022

JOURNAL
PUBLICATIONS

- [1] **Ananda Reddy. M**, R. Pandeewari and Seok-Bum Ko, "Non-Bianisotropic Complementary Split Ring Resonator Metamaterial Bandstop Filter Using Cylindrical Metal Vias," *IEEE Transactions on Circuits and Systems II: Express Briefs*. [Early Access] <https://ieeexplore.ieee.org/document/9933868>
- [2] **Mekala Ananda Reddy**, Namanathan Praveena, Nagarajan Gunavathi, and Ramasamy Pandeewari, "Metamaterial Perfect Absorber Using Vanadium Oxide Hexagonal Ring Structure," *Progress In Electromagnetics Research Letters*, Vol. 106, 15-20, 2022.
- [3] **Mekala Ananda Reddy**, Albert Ruth Jency, Sharma Shabdita, and Ramasamy Pandeewari, "A Novel CSRR Loaded Compact ACS Fed Monopole Antenna for Sub-6 GHz 5G Applications," *Progress In Electromagnetics Research Letters*, Vol. 106, 89-95, 2022.

CONFERENCES

International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW-2019)

- significant contribution in Organizing the TEQIP-III sponsored international conference
- [4] R.Samson Daniel, **M.Ananda reddy**, R.Pandeewari and S.Raghavan, "A Compact CPW-Fed Circular Patch Antenna Loaded with CSRR for Multiband Operations", *Proceedings of International Symposium on Antenna and Propagation (APSYM 2016)*, Kerala, CUSAT
 - [5] Aishvaryaa Devi G, Aarthi J, Bhargav P, Pandeewari R, **Ananda Reddy M** and Samson Daniel R, "UWB Frequency Reconfigurable Patch Antenna for Cognitive Radio Applications," *IEEE International Conference on Antenna Innovations & Modern Technologies for Ground, Aircraft and Satellite Applications (iAIM)*, 2017, pp. 1-4.
 - [6] **Ananda Reddy M** "Energy-Efficient Power Allocation and Performance Estimation for MIMO-MRC Systems," *National Conference on Innovations in IT and Engineering (ITE 2K13)*, April 2013.

CERTIFICATIONS

Industrial Certifications:

- VLSI certification from United Technologies Limited.

TRAINING

Industrial Training:

- WIMAX training from carc in 2006.
- VxWorks training from carc in 2007
- Clearcase training from carc in 2008
- VLSI training from corporate institute in Bangalore

EXPERTISE I

- Electronic Devices and Circuits.
- Signals and Systems.
- Pulse and Digital Circuits.
- Electromagnetic Theory and Transmission Lines.
- Antennas and Wave Propagation.
- Analog Communications.
- Microprocessors and Microcontrollers.
- Microwave Engineering.
- Optical Communications.
- Satellite Communications.
- Radar Systems.
- RF Circuit Design.
- Probability Theory and Stochastic Processes.
- Electronic Measurements and Instrumentation.
- Switching Theory and Logic Design.
- Linear and Digital IC Applications.
- Artificial Neural Networks.

LABS HANDLED	<ul style="list-style-type: none"> • Analog Communications Lab • Microprocessors and Microcontrollers Lab • Electronic Devices and Circuits Lab • Basic Simulation Lab • Computer Programming Lab • Digital Signal Processing Lab • Microwave Engineering and Digital Communications Lab
SHORT TERM COURSE	<p>IIT Kharagpur One Week short term course</p> <ul style="list-style-type: none"> • Efficient and Miniaturized Antennas - Analysis and Design (June 2017) <p>IIT Kharagpur One Week short term course</p> <ul style="list-style-type: none"> • Design of Microwave and Millimeter-Wave Filters(July 2019) <p>SPARC Sponsored Three Week short term course</p> <ul style="list-style-type: none"> • Wireless Information and Power Transfer for Adavanced Wireless Communication Sys-tems,in collaboration with TOMSK Polytechnic University, Russia (Jan 2020)
WORKSHOPS	<p>GIAN Sponsored One Week workshop</p> <ul style="list-style-type: none"> • Advanced Electromagnetic Engineering, Osmania University, Hyderabad, Telangana (Nov 2017) <p>GIAN Sponsored One Week workshop</p> <ul style="list-style-type: none"> • Vogue Technologies on 5G & 5G+ Communication and Vehicular Technology(Jan-2018) <p>GIAN Sponsored One Week workshop</p> <ul style="list-style-type: none"> • Emerging Antennas for Future Communication Systems: Theory, Challenges and Phys-ical Implementaiton, NIT Goa (Mar 2018) <p>SPARC Sponsored One Week workshop</p> <ul style="list-style-type: none"> • High frequency Metamaterial LTCC structures and its scope in the mm Wave applica-tions <p>SPARC Sponsored Three Week workshop</p> <ul style="list-style-type: none"> • Wireless Information and Power Transfer for Adavanced Wireless Communication Sys-tems,in collaboration with TOMSK Polytechnic University, Russia (Jan 2020) <p>SPARC Sponsored One Week workshop</p> <ul style="list-style-type: none"> • Emerging Technologies of 5G Communications,NIT Tiruchirappalli and TOMSK Poly-technics University Russia (Feb 2020) <p>Distinguished Lecturer's Seminar</p> <ul style="list-style-type: none"> • IEEE Antennas and Propagation Society (AP-S) Madras Chapter in association with NIT Tiruchirappalli, Prof.Sembiam R. Rengarajan, California State University, California <p>Krishna Teja Technical Campus organized workshop</p> <ul style="list-style-type: none"> • Role of Material Science in Engineering and Medicine (Oct 2013) <p>S.V. College of Engineering organized workshop</p> <ul style="list-style-type: none"> • Advancements in VLSI Design (Aug 2015)
FACULTY DEVELOPMENT PROGRAMME	<p>Government College of Engineering Srirangam, Tiruchirappalli</p> <ul style="list-style-type: none"> • Recent Advances in Signal Processing, RF & Wireless Communication, Served as re-source person and handled Technical Sessions (Sep, 2019) <p>Sri Venkateswara College of Engineering and Technology, Tirupathi</p> <ul style="list-style-type: none"> • Analog System Design and IOT Application using ASLK Pro applications (June, 2015)

- IEEE ACTIVITIES IEEE leadership activities and role in conferences:
- IEEE Membership: Joined as Graduate Student Member from 2018, Graduate Student Member of IEEE AP Society.
 - Served as Chair of IEEE APS Student Branch Chapter, NIT, Trichy (2020-2021).
 - Contributed as office bearer in IEEE Student Branch Chapter, NIT, and Trichy (2019-2020)

PROJECTS

SPARC:

Scheme for Promotion of Academic and Research Collaboration

The Scheme for Promotion of Academic and Research Collaboration (SPARC), an initiative of Ministry of Human Resource Development, Government of India, aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between top ranked Indian Institutions and globally ranked Foreign Institutions, through Joint Research Projects involving mobility of students and faculty.

- Metamaterial-Based Low Profile LTCC Balanced Antipodal Vivaldi Antenna for 5G eMBB

ISRO INCUBATION:

Design and development of X band & Ka band passive devices

- **Waveguide Terminations**- WR-90 (9.3-9.6),WR-6 2(13.465-13.565),WR-28 (35-36)
- **Waveguide Adapter**- WR-90 (9.3-9.6),WR-6 2(13.465-13.565),WR-28 (35-36)
- **C-type Feed Through EMI Filters**-Frequency: 1 MHz,10 MHz,100 MHz,1 GHz,

Basic & Simple CPE:

- Responsibilities and achievements:Developed windmarks for configuration and management.
- Developed HTML pages for voip , wcl and linked wind marks to it in the backend.
- Developed CLI(Command Line Interface) commands GET and SET for configuration parameters.
- Simulation environment for sequans in Debian OS.

MIMO-SW:

- Responsibilities and achievements:Developed CLI interface for voip, wcl and configuration parameters in NGNCPE (MIMO)
- Developed TR069 HTML pages for NGNCPE (MIMO).
- Developed connection manager module and coded some part in authentication module (Basic and Digest) in TR069 software development.
- Developed provision parameters for VOIP CPE (DSL forum TR-104) in TR069 software development
- Clearcase management for the MIMO SW builds. Maintained Release Engineering environments for MIMO projects.
- As a clearcase manager,creating clearcase environment for the team members, setting up views, configspecc etc.
- Development Tool Integrations to existing ClearCase environments, including triggers & scripting.

UNITED TECHNOLOGIES LIMITED: June 2005 to July 2006

- Front End:

Project: PCI BRIDGE

Description: The PCI Bridge provides an interface between the WISHBONE Silicon On Chip (SoC) bus and the Peripheral Component Interconnect (PCI) local bus. It consists of two independent units, one handling transactions originating on the PCI bus, the other one handling transactions originating on the WISHBONE bus. The core has been designed to offer as much flexibility as possible to all kinds of applications.

Responsibilities and achievements: Responsible for interfacing PCI standard bus to PCI bridge.

Project: Logic Design and FPGA Design: - UART, FIFO, DRAM

Responsibilities and achievements: Synthesized and have done RTL Design (Verilog/VHDL) using Modelsim6.0a, targeting Xilinx FPGAs

- Backend:
Project: Layout Design of Standard Cells. Description: This project is to design and simulate the following standard cells AND, OR, NAND, NOR, Multiplexer, Flip-Flop etc. The entire cell layout was done using the IC Extract tool. Each of the modules was checked for DRC and LVS errors and the design was simulated using the ELDO SPICE tool.
Responsibilities and achievements: Designed AND, OR, NAND, NOR standard gates, Multiplexer, Flip-Flops and simulated in ELDO SPICE tool.
Project: FAST ADDER
Description: This project is to design and simulate fast adder. The entire cell layout was done using the IC Graph tool. This module was checked for DRC and LVS errors and the design was simulated using the ELDO SPICE tool.
Responsibilities and achievements: Designed fast adder and checked for DRC and LVS errors.

AUTOMATIC WATER TAP CONTROLLER: 2004-2005

- Abstract: Automatic Water Tap Controller was developed by a team of three during the sixth semester of engineering course. The above project will switch on the faucet whenever an object obstructs the continuously transmitting IR rays and do vice-verse when the object is not present. It monitors continuously and suppose the object obstructs more than 20 sec, the faucet will be automatically switched-off, in order to prevent the wastage of water. This project module can be used in luxury hotels, restaurants, airport etc
- Responsibilities and achievements: Designing Logic, Soldering and Testing

HARDWARE AND SOFTWARE SKILLS

Programming:

- C, C++, vxworks , socket programming, Data Structures, Assembly language, Mat-Lab, VHDL (VLSI Hardware Description Language), Verilog Hardware Description Language).

Software:

- Module: TR069, Basic & Simple CPE configuration management, MIMO software CLI, HTML interface.
- Tools: source insight, Beyond compare, clearcase ,DMS, wireshark, bugzilla,

Computer Programming:

- C, C++, UNIX shell scripting (including POSIX.2), GNU make, python, VBA script and others

MATLAB skill set:

- Linear algebra, Fourier transforms, Monte Carlo analysis, nonlinear numerical methods, polynomials, statistics, N -dimensional filters, visualization
- Toolboxes: communications, control system, filter design, genetic algorithm and direct search, signal processing, system identification

Information/Internet Technology:

- Networking (UDP, TCP, ARP, DNS, Dynamic routing)

Desktop Editing and Productivity Software:

- \TeX (\LaTeX , \BibTeX , \PSTricks),
- Microsoft Office, OpenOffice.org, LibreOffice, Corel WordPerfect, Google Docs
- GIMP, InkScape

Operating Systems:

- Microsoft Windows family, Linux and other UNIX variants

PERSONAL DETAILS

- DOB (10-07-1984)
- Marital Status:Married
- Current residing address: M.Ananda Reddy, 32-6-9 C/O M.Munaswamy Reddy,K M Agraharam BPO, Puttur-517583, Andhra Pradesh,India

- Permanent address: M.Ananda Reddy, 32-6-9 C/O M.Munaswamy Reddy,K M Agraharam BPO, Puttur-517583, Andhra Pradesh,India
- Mobile: +91-8500807700
- Personal email ID: anandareddynitt@gmail.com
- Languages known: Telugu, Hindi, English, Tamil, Kannada, Malayalam, Basic German.

DECLARATION I do hereby declare that the information given above is true to the best of my knowledge and belief.

PLACE:TRICHY,INDIA

M. Ananda Reddy

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