

Dr. Laxminidhi T.

Designation : Associate Professor

Date of Joining at NITK: Wednesday, October 18, 2000

Professional Experience: Total: 14 years at KREC/NITK as regular faculty and 2 years at KREC as Temporary Lecturer (05-Sep-1998 to 17-Oct-2000)

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Academic Background:

- Ph.D.: Indian Institute of Technology Madras, 2008
- M.Tech.: Karnataka Regional Engineering College (Mangalore University), 1998
- B.E: Nitte Mahalinga Adyanthaya Memorial Institute of Technology (Mangalore University),1996.

Areas of Interest: Analog and Mixed Signal Design, Power Management Circuits

Significant Projects:

1. RF MEMS Switches for Wideband Reconfigurable RF Microsystems
 - Role: Co-investigator (Chief Investigator : Dr. M.S. Bhat)
 - Sponsoring Agency: Department of Electronics and Information Technology (DeitY), 6, CGO complex, New Delhi.
 - Project Outlay: Rs. 175 Lakhs
 - Project Duration: 3 years, 6 months (July 2010 to December 2013)
 - Status: Completed

Supervision of Ph.D./M.Tech.(Research)

Number of Ph. D. completed: 02 (Thesis submitted)

Number of Ph. D. in progress: 03

M.Tech. (Research) : (01 completed; 01 in progress)

Significant Publications

International Journals

1. Rekha S. and Laxminidhi T., "Low voltage, Low power Chebyshev filter in 0.18 μm CMOS Technology", Journal of Circuits, Systems and Computers, World Scientific Publishing Company, ISSN: 0218-1266, Vol.22, No.7, August 2013.
2. Vasantha M.H. and Tonse Laxminidhi, "Two-Port Transmission Line Parameters Approach for Accurate Modeling and Design Centering of Integrated Continuous-Time Filters", International Journal of Advanced Computer Research (ISSN (print):2249-7277, ISSN (online): 2277-7970) Volume-2, Number-4, Issue-6, pp:156-162 December 2012.

3. Rekha S. and Laxminidhi T., "A low power, fully differential bulk driven OTA in 180 nm CMOS Technology", International Journal of Computer and Electrical Engineering(IJCEE) ISSN: 1793-8163, Vol. 4, No. 3, June 2012.
4. Pramod M. and T. Laxminidhi "Low Power Continuous Time Common Mode Sensing for Common Mode Feedback Circuits", Journal of Circuits, Systems, and Computers, Vol 19, No.3, May 2010, pp 519-528.
5. T.Laxminidhi, V.Prasadu and S.Pavan "Widely Programmable High Frequency Active-RC Filters in CMOS Technology" IEEE Transactions on Circuits and Systems – I : Regular Papers, February 2009.

International Conferences

1. Rekha S. and Laxminidhi T., "Ultra low power Active-RC filter in 180 nm CMOS technology", Proc.of 11th International Workshop IEEE on Electronics, Control, Measurement, Signals and their application to Mechatronics (ECMSM), Toulouse, France, June 21-23, 2013.
2. Vasantha M.H. and Tonse Laxminidhi,"Fixed Transconductance Bias Circuit for Low Voltage Bulk-Driven Transconductor",in proceedings of International Conference on Communication, VLSI and Signal Processing (ICCVSP–2013), Feb.20–22 2013, 271-274.
3. Rekha S. and Laxminidhi T., "Effect of Finite gain and Bandwidth of feedforward compensated OTA on Active-RC integrators: A case study", International Symposium of Electronic System Design (ISED) 2012, Kolkata, December 19-22, 2012.
4. Vasantha M.H. and Tonse Laxminidhi, "0.5 V, Low Power, 1MHz Low Pass Filter in 0.18 μ m CMOS Process", in proceedings of IEEE Third International Symposium on Electronic System Design, Dec 18–21, 2012, pp.33–37.
5. Shrivastava, P., Bhat, K.G. Laxminidhi T. and Bhat, M.S. , " A 500 kS/s 8-bit charge recycle based 2-bit per step SAR-ADC", in proceedings of Third International Conference on Emerging Applications of Information Technology (EAIT), Nov 31 – Dec 1, 2012, pp 462 – 466.
6. Komar, R., Bhat, M.S. and Laxminidhi, T., "Switched inverter comparator based 0.5 V low power 6 bit Flash ADC" in proceedings of 10th IEEE International Conference on Semiconductor Electronics (ICSE), 19-21 Sept. 2012, pp 613 – 617.
7. Rekha S. and Laxminidhi T., "Effect of parasitics of feed-forward compensated OTA on Active-RC integrators", 3rd international conference on Advances in Power Electronics and Instrumentation Engineering (PEIE 2012), Bangalore, Aug.03-04, 2012. Vasantha M.H. and Tonse Laxminidhi, "0.5 V, 36 μ W Gm -C Butterworth Low Pass Filter in 0.18 μ m CMOS process", in proceedings of The Fourth IEEE Asia Symposium on Quality Electronic Design (ASQED– 2012), July 11–12, 2012, pp. 82–85.
8. Komar R, Bhat M.S. and Laxminidhi T., "A 0.5V 300 μ W 50MS/s 180nm 6bit Flash ADC using inverter based comparators", in proceedings of IEEE International Conference on Advances in Engineering, Science and Management (ICAESM), March 30-31 2012, pp 331 – 335.
9. VasanthaM.H. and Tonse Laxminidhi, "A 0.5V, 20 μ W Pseudo-differential 500 kHz Gm-C Low-Pass Filter in 0.18 μ m CMOS Technology", in proceedings of IEEE International Conference on Devices, Circuits and Systems (ICDCS– 2012), March 15-16, 2012, pp. 76–79.
10. Vasantha M.H. and Tonse Laxminidhi, "20 μ W, 500 kHz Continuous-Time Low- Pass Filter in 0.18 μ m CMOS Process",in proceedings of Second International Engineering Symposium -IES 2012 (KU-MIT-NITK Joint Symposium), March 5– 7, 2012, pp. E1-3-1–E1-3-6.

11. Prajakta Panse and T. Laxminidhi "On-Chip 1.8 V Step Down DC/DC Converter with 94% Power Efficiency", in proceedings of 3rd Asia Symposium Quality Electronic Design (ASQED) 19-20 July 2011, pp 42-45.
12. Rekha S. and Laxminidhi T., "Low power, fully differential, feed-forward compensated bulk driven OTA", Proc. 8th international conference organized by Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology Association(ECTI), Thailand, Thailand, May 17-19, 2011.
13. Prajakta Panse and T. Laxminidhi "Energy Efficient 1.8 V Step Down DC/DC Converter in 0.18 μm CMOS Technology with optimized silicon area", 3rd International Conference on Electronics Computer Technology - ICECT 2011 proceedings, April 2011.
14. Rekha S. and Laxminidhi T., "A low power, fully differential bulk driven OTA in 180 nm CMOS Technology", Proc. 3rd international conference on Signal acquisition and Processing, Singapore, Feb. 26-28, 2011.

Services:

1. Assisting Public Sector banks (jointly with Prof. U. Sripathi) since 2009 (Corporation Bank, Syndicate bank, Vijaya bank) in their procurement of Currency note machines. This work involves assisting the respective banks in the framing of the Technical specifications of the machines for the tender, evaluating the machines for their compliance with specifications laid down by the Reserve Bank of India and conducting field tests to assess features such as the consistency of the machines during note sorting, the ability of the machine to detect suspect (fake) notes and the ability of the machine to perform the expected duties under working conditions prevailing in the Currency Chests/ branches in India. The total consultancy amount earned for the institute is about Rs. 42 Lakhs till date.
2. Joint Nodal Officer (academic) of the TEQIP-II program at NITK during April 2011-March 2014 I along with Dr. U. Sripathi, Nodal Officer (Academic), TEQIP-II, have designed a number of schemes (the scheme of Half Time Teaching Assistants, Postgraduate Research Associates, peer mentoring of First year students by Third year students etc were designed by us) to improve the teaching-learning environment at NITK with the support provided by this project.
3. Since April 2014, I am discharging the responsibilities of Nodal Officer (Finance) of the TEQIP-II programme and Nodal Officer (Equity Assurance Plan Implementation) of the same programme.
4. Assisted Dean (P&D) in Procuring Public Address systems for 32 class rooms of the Institute.
5. Member : NITK Sports Advisory Committee for the year (2009-10 and 2010-11)
6. Member : Quarters Allotment Committee (2012-13 and 2013-14).
7. Guest Lectures / Invited Talks
 - a) One day hands-on LaTeX for the faculty of MACS department of NMAMIT, Nitte (14th July 2014)
 - b) Expert lecture on "Basics of CMOS Amplifiers" at a five day Workshop on Analog Design Summer School organized by IEEE Section, Bangalore (7th July 2014)
 - c) Invited talk on "Analog Signal Processing: Filters" in a FDP at PA College of Engineering, Mangalore. (22nd March 2014)
 - d) Invited talk on Re-playing Analog Circuits at Dept. of E&C Engg, BVB College of Engineering and Technology, Hubli (8th March 2014)
 - e) Invited talk on "Replaying Analog Circuits" at Dept. of E&C Engg, NIT Trichy. (1st March 2014)

- f) Invited talk on “Integrated Power Management Circuits” at the TEQIP-II sponsored FDB held at Dept. of E&E Engg., NMAMIT Nitte. (30th August 2013)
- g) Invited talk on “Analysis of Filter Architectures” at TEQIP-II sponsored FDP on VLSI Architectures for Signal Processing at PSG College of Technology (19th November 2013)
- h) Delivered Hands-on on LaTeX in a 3 day National Worksop on “Research Methodologies and Effective Publication Practices” held at NMAMIT Nitte during 25-27, July 2012
- i) Expert talk on “Analog Circuit Design for Low-voltage Low-power applications” at two days National conference on “Advanced Technologies in Electrical and Electronic Systems – ATEES-2012” at Gogte Institute of Technology, Belgaum (18th February 2012)
- j) Invited talk on “Basics of CMOS Amplifiers” at a Workshop on Analog and Mixed Signal Design held at MIT Manipal (20th January 2012)
- k) Guest Lecture on “Analog Design” in a National workshop on Next Generation Communication Technology held at College of Engineering, Munnar (12th December 2011)
- l) Invited Talk on “Analog Design” at Dept. of E&C Engg., S.I.T. Tumkur on 4th November 2011
- m) Expert talk on “Layout Considerations for Analog Circuits” at IEP held at NIT Trichy. (30th September 2010)
- n) Invited Lecture on “CMOS Operational Amplifiers” at MCIS Manipal on 15th April 2010.
- o) Invited lectures on topics “Basics of Analog VLSI” and “Design of Analog Amplifiers” at One week STTP workshop on “VLSI System Design using Cadence Tool” on 27th January 2010, organized by Dept. of Telecommunication and Dept. E&C Engg., JNNCE, Shimoga.

8. Others :

- a) Member, Board of Studies (BoS) for the Dept. of E&C Engg, NMAMIT, Nitte.
- b) Member, Board of Studies (BoS) for the Dept. of E&C Engg, SIT, Tumkur.
- c) Member, Doctoral Committee for three research scholars at M.I.T., Manipal
- d) Participated as Technical expert for the Faculty Selection in the Dept. of E&C Engg, Alwas College of Engg, Moodubidri.
- e) Member, Mangalore Amature Radio Club, Mangalore
- f) Member, NITK Staff Cricket Team.