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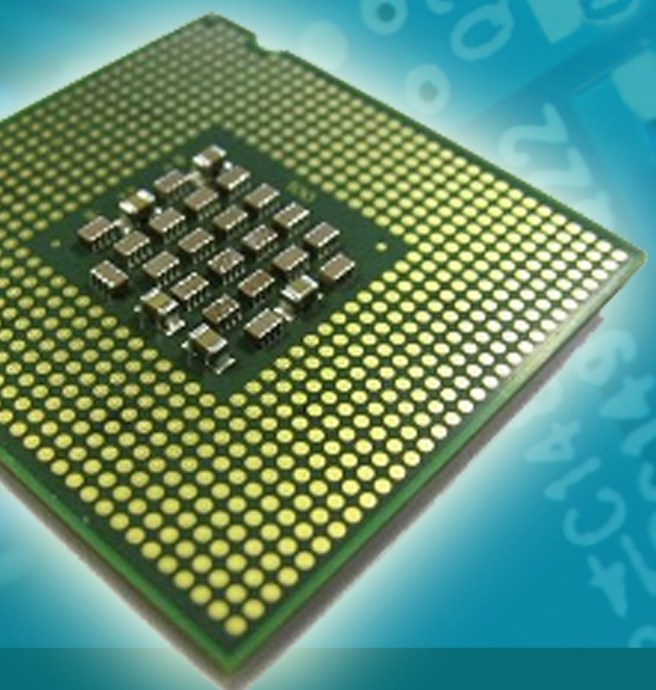
SPIRO
SOLUTIONS PVT LTD

VLSI
PROJECT TITLE
2016 - 2017



VLSI

DFT(DESIGN FOR TESTABILITY)

S.NO	PROJECT CODE	TITLE	YEAR
01	ITVL01	Test Stimulus Compression Based on Broadcast Scan with One Single Input	2016
02	ITVL02	Thermal-Aware Small-Delay Defect Testing in Integrated Circuits for Mitigating Overkill	2016
03	ITVL03	Design for Testability of Sleep Convention Logic	2016
04	ITVL04	Low-Power Programmable PRPG With Test Compression Capabilities	2015
STA(STATIC TIME ANALYSIS)			
06	ITVL06	A 1–16-Gb/s All-Digital Clock and Data Recovery With a Wideband, High-Linearity Phase Interpolator	2016
07	ITVL07	Skew Minimization With Low Power for Wide-Voltage-RangeMulti power-Mode Designs	2016
AREA EFFICIENT			
08	ITVL08	Polynomial Time Algorithm for Area andPower Efficient Adder Synthesis inHigh-Performance Designs	2016
09	ITVL09	A Fused Floating-Point Four-Term Dot Product Unit	2016
10	ITVL10	Ultralow-Energy Variation-Aware Design: Adder Architecture Study	2016
11	ITVL11	Hybrid LUT/Multiplexer FPGA Logic Architectures	2016
12	ITVL12	A New Paradigm of Common Subexpression Elimination by Unification of Addition and Subtraction	2016
13	ITVL13	Low-Cost High-Performance VLSI Architecture forMontgomery Modular Multiplication	2016

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14	ITVL14	Trade-offs for Threshold Implementations Illustrated on AES	2015
15	ITVL15	Low Power Reconfigurable Double Precision Multiplier for DSP Applications	2015
16	ITVL16	Reverse Converter Design via Parallel-Prefix Adders: Novel Components, Methodology, and Implementations	2015
LOW POWER			
17	ITVL17	Low-Power Split-Radix FFT Processors Using Radix-2 Butterfly Units	2016
18	ITVL18	Reducing Power, Leakage, and Area of Standard-Cell ASICs Using Threshold Logic Flip-Flops	2016
19	ITVL19	Design-Efficient Approximate Multiplication Circuits Through Partial Product Perforation	2016
20	ITVL20	A High-Performance FIR Filter Architecture for Fixed and Reconfigurable Applications	2016
21	ITVL21	Design and FPGA Implementation of Reconfigurable Linear-Phase Digital Filter With Wide Cutoff Frequency Range and NarrowTransition Bandwidth	2016
22	ITVL22	Application-Specific Low-Power Multipliers	2016
23	ITVL23	Aging-Aware Reliable Multiplier Design With Adaptive Hold Logic	2015
24	ITVL24	Exact and Approximate Algorithms for the Filter Design Optimization Problem	2015
HIGH SPEED			
25	ITVL25	High-Speed, Low-Power, and Highly Reliable Frequency Multiplier for DLL-BasedClock Generator	2016
26	ITVL26	A Modified Partial ProductGenerator for Redundant BinaryMultipliers	2016
27	ITVL27	High-Speed and Energy-Efficient Carry Skip Adder Operating Under a Wide Range of Supply Voltage	2016

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		Levels	
28	ITVL28	A New Fast and Area-Efficient Adder-Based Sign Detectorfor RNS $\{2n-1, 2n, 2n+1\}$	2016
29	ITVL29	Efficient Halfband FIR Filter Structures forRF and IF Data Converters	2016
30	ITVL30	FIR Filter Design via Extended Optimal Factoring	2016
31	ITVL31	Variable Latency Speculative Han-Carlson Adder	2015
32	ITVL32	Fault Tolerant Parallel Filters Based on Error Correction Codes	2015
33	ITVL33	$(4 + 2\log n)\Delta G$ Parallel Prefix Modulo-$(2^n - 3)$ Adder via Double Representation of Residues in [0, 2]	2015
QCA TECHNOLOGY			
34	ITVL34	USE: A Universal, Scalable, and EfficientClocking Scheme for QCA	2016
35	ITVL35	Design of adder and subtractor circuits inmajority logic-based field-coupled QCAnanocomputing	2016
36	ITVL36	Coplanar Full Adder in Quantum-Dot Cellular Automata via Clock-Zone-Based Crossover	2015
37	ITVL37	Design and simulation of turbo encoder in quantum-dot cellular automata	2015
DA TOOL (TANNER TOOL)			
38	ITVL38	Back to the Future: Current-Mode Processorin the Era of Deeply Scaled CMOS	2016
39	ITVL39	Low-Power Variation-Tolerant Nonvolatile Lookup Table Design	2016
40	ITVL40	Circuit and Architectural Co-Design forReliable Adder Cells With Steep Slope TunnelTransistors for Energy Efficient Computing	2016
41	ITVL41	Designing Tunable Subthreshold Logic Circuits Using Adaptive Feedback Equalization	2016

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42	ITVL42	Single-Supply 3T Gain-Cell for Low-Voltage Low Power Applications	2016
43	ITVL43	MOTO-X: A Multiple-Output Transistor-Level Synthesis CAD Tool	2016
44	ITVL44	Energy and Area Efficient Three-Input XOR/XNORs WithSystematic Cell Design Methodology	2016
45	ITVL45	Finite State Machines With Input Multiplexing: A Performance Study	2015
VLSI WITH MATLAB			
46	ITVL46	A Scalable Approximate DCT Architectures for Efficient HEVC Compliant Video Coding	2016
47	ITVL47	LUT Optimization for Distributed Arithmetic-Based Block Least Mean Square Adaptive Filter	2016
48	ITVL48	Multiplierless Unity-Gain SDF FFTs	2016
49	ITVL49	On Efficient Retiming of Fixed-Point Circuits	2016
50	ITVL50	Exploiting Adder Compressors for Power-Efficient 2-D Approximate DCT Realization	2016
51	ITVL51	Input-Based Dynamic Reconfiguration of Approximate Arithmetic Unitsfor Video Encoding	2016
52	ITVL52	Floating-Point Butterfly Architecture Based on Binary Signed-Digit Representation	2016
53	ITVL53	Recursive Integer Cosine Transform for HEVC and Future Video Coding Standards	2016
54	ITVL54	A Generalized Algorithm and Reconfigurable Architecture for Efficient and Scalable Orthogonal Approximation of DCT	2015
55	ITVL55	Design and Analysis of Approximate Compressors for Multiplication	2015

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1. RENEWABLE ENERGY

I.SOLAR ENERGY

S.NO	PROJECT CODE	PROJECT TITLES	YEAR
1	ITPW01	Highly efficient asymmetrical pwm full-bridge converter for renewable energy sources	2016
2	ITPW02	A Three Phase Hybrid Cascaded Modular Multilevel Inverter For Renewable Energy Environment	2016
3	ITPW03	Cascaded H Bridge Multilevel PV Topology For Alleviation Of Per Phase Power Imbalances & Reduction of Second Harmonic Voltage Ripple	2016
4	ITPW04	Least Power Tracking Method For Photovoltaic Differential Power Processing System	2016
5	ITPW05	Design And Analysis Of A High Efficiency DC-DC Converter With Soft Switching Capability For Renewable Energy Application Requiring High Voltage Gain	2016
6	ITPW06	A Bi-Directional Three Level LLC Resonant Converter With PWAM Control	2016

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7	ITPW07	High-Gain Single-Stage Boosting Inverter For Photovoltaic Applications	2016
8	ITPW08	A Single Phase PV Quasi –Z –Source Inverter With Reduced Capacitance Using Modified Modulation And Double Frequency Ripple Suppression Control	2016
9	ITPW09	Soft Switching Non Isolated Current Fed Inverter For PV/Fuel Cell Application	2016
10	ITPW10	Front End Isolated Quasi Z Source DC-DC Converter Modules In Series For Photovoltaic High voltage Dc Application	2016
11	ITPW11	A Fast Converging MPPT Technique For Photovoltaic System Under Fast Varying Solar Irradiation And Load Resistance	2015
12	ITPW12	Performance of medium voltage dc bus PV system architecture utilizing high gain DC DC converter	2015
13	ITPW13	Hybrid Transformer Zvs/Zcs Dc Dc Converter With Optimized Magnetics And Improved Power Devices Utilization For Photovoltaic Module Application	2015
I. WINDENERGY			

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14	ITPW14	Control & Operation Of A Dc Grid Based Wind Power Generation System In A Microgrid	2016
15	ITPW15	Sliding Mode Control Of PMSG Wind Turbine Based On Enhanced Exponential Reaching Law	2016
16	ITPW16	A Medium Frequency Transformer Based Wind Energy Conversion System Used For Current Source Converter Based Offshore Wind Farm	2016
17	ITPW17	Doubly Fed Induction Generator For Wind Energy Conversion Systems With Integrated Active Filter Capabilities	2015
II. HYBRID SYSTEMS			
18	ITPW18	A Modified Reference Of An Intermediate Bus Capacitor Voltage Based Second Harmonic Current Reduction Method For A Standalone Photovoltaic Power System	2016
19	ITPW19	Control And Implementation Of Standalone Solar Photovoltaic Hybrid System	2016
20	ITPW20	Grid Connected PV-Wind –Battery Based Multi Input Transformer Coupled Bi Directional DC-DC Converter For Household Application	2016

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21	ITPW21	MPPT With Single Dc Dc Converter With Inverter For Grid Connected Hybrid Wind Driven PMSG-PV System	2015
III. ENERGY STORAGE SYSTEM			
22	ITPW22	High Step Up /Step Down Soft Switching Bidirectional DC-DC converter with coupled inductor and voltage matching control for energy storage systems	2016
23	ITPW23	Bidirectional Resonant DC-DC Step-Up Converters For Driving High-Voltage Actuators In Mobile MicroRobots	2016
24	ITPW24	High Efficiency Bi-Directional Converter for Flywheel Energy Storage Application	2016

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Education Partners:

Technologies and Domain used:

IEEE 2016, Java, J2ee, Android, Dot net, PHP, Embedded, Vlsi, Matlab, VB, Net working, Data Mining, Image Processing, Cloud Computing, Mobile Computing, Multimedia, Network Security, Soft Engg, Grid Computing, Automation, Robotics, Communication, RF, Zigbee, Blue tooth, GSM/GPS/G-PRS, Power Electronics & Systems, Electrical, DSP, RTOS, Bio metrics, etc.

Features

- Latest 2016 IEEE, Science Direct, ACM based project concept and solutions.
- State of the art infrastructure, Innovative Project training methods.
- All our efforts are focused on students to meet industry requirements.
- Our environment is encapsulated with doctorates, professionals and other experts.
- Excellent Placements through our **Spiro HR Management Consultants (SMC) Pvt Ltd.**

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