

Course on VLSI Design Techniques



Nizar Abdallah

INTRODUCTION
VLSI Design Techniques



**LABORATOIRE LIP6 - Departement ASIM
UNIVERSITE PIERRE ET MARIE CURIE (PARIS VI)
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VLSI Design Techniques

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OUTLINE

- I - INTRODUCTION**
- II - DESIGN METHODOLOGY: AN OVERVIEW**
- III - ABSTRACTION LEVELS IN ALLIANCE**
- IV - VHDL: A HARDWARE DESCRIPTION LANGUAGE**
- V - VHDL: THE ALLIANCE SUBSET**
- VI - ALLIANCE: A COMPLETE DESIGN SYSTEM**
- VII - FPGA ARCHITECTURE AND DESIGN FLOW**
- VIII - TODAY'S CHALLENGES IN CAD TOOLS**

THE LIP6 LABORATORY

**Architecture des Systèmes intégrés et Micro électronique (ASIM)
UNIVERSITY PIERRE ET MARIE CURIE**



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THE LIP6 LABORATORY



168 RESEARCHERS

ARCHITECTURE	59	NETWORKS & PERFORMANCES	30
DISTRIBUTED SYSTEMS	36	PARALLEL ALGORITHMS	17

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THE ARCHITECTURE GROUP

CAD for VLSI

Architecture

Portable Libraries	9	Superscalar Processor	5
Verification	7	RCUBE Router	8
Logic Synthesis	5	RAPID Coprocessor	6
Architecture Synthesis	4		
Test	5		

EDUCATION TARGET

- Undergraduate Students (~ 80 Students and 72 Hours)
 - ✧ **Electrical Engineering**
 - ✧ **Computer Science**

- Postgraduate Students (~ 60 Students and 300 Hours)
 - ✧ **DEA ASIME**
 - ✧ **DESS CIMI**

THE ALLIANCE SYSTEM



- A **Complete Set** of CAD Tools for Digital CMOS VLSI Design
- Proposes a Design Methodology
- Portable, Compact and Easy to Learn
- ALLIANCE is Totally **FREE**