



**The Abdus Salam  
International Centre for Theoretical Physics**



**2065-13**

**Advanced Training Course on FPGA Design and VHDL for Hardware  
Simulation and Synthesis**

*26 October - 20 November, 2009*

**FPGA Design and VHDL  
Overview**

Nizar Abdallah  
*ACTEL Corp. 2061 Stierlin Court Mountain View  
CA 94043-4655  
U.S.A.*



# FPGA Design & VHDL

Nizar Abdallah

[nizar@ieee.org](mailto:nizar@ieee.org)

October 2009



# Lectures' Overview

# Lectures' Objectives

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On completion, you will be able to learn...

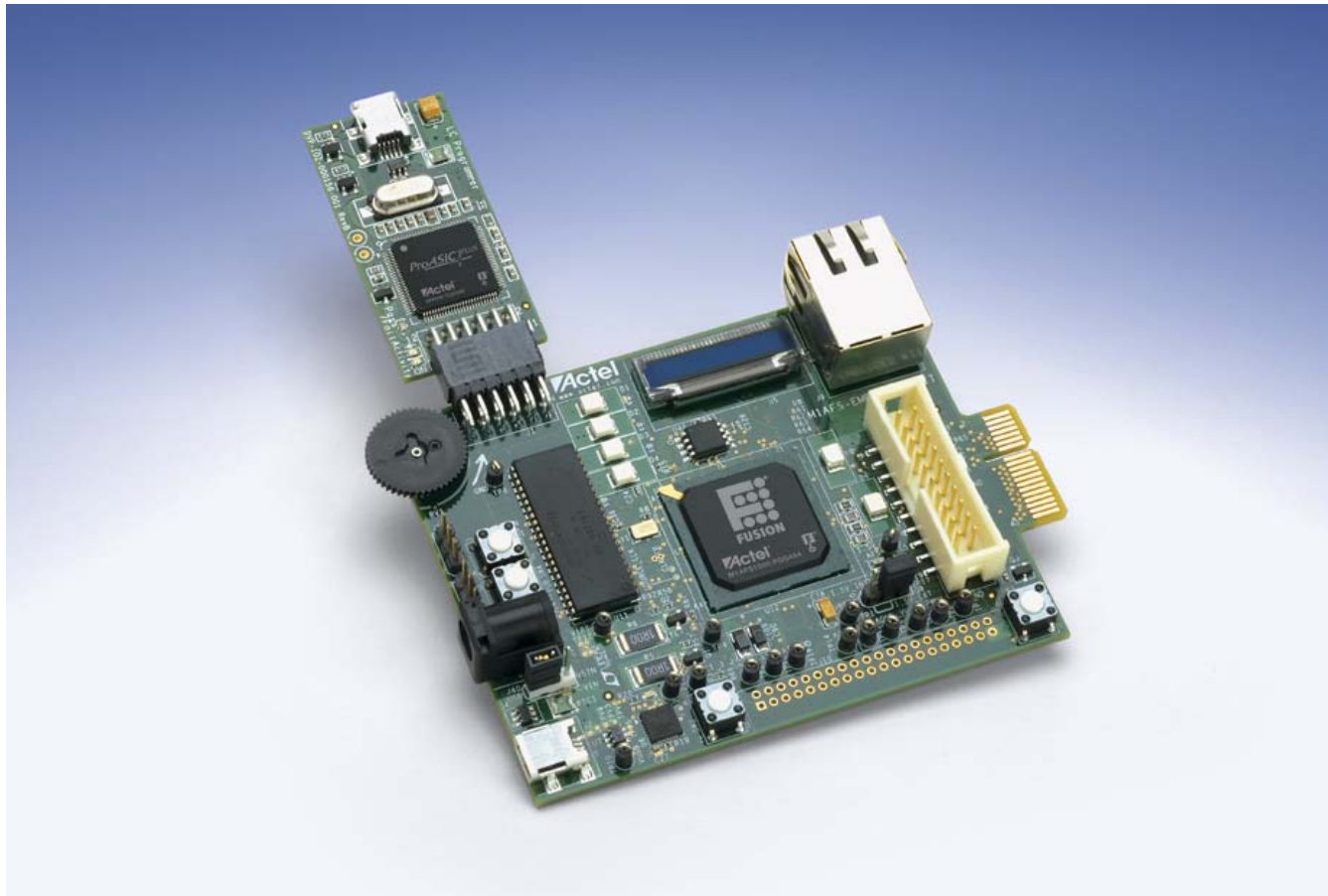
- FPGA fundamentals
- State-of-the-art FPGA **design methodologies**
- The **VHDL subset** used for FPGA synthesis & simulation
- Actel's **SoC Flash** FPGA technology
- Actel's Libero® Integrated Design Environment (IDE)
- About **emerging technologies** and future opportunities.

# Measurable Outcomes

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On completion, you will be able to easily design using...

Actel's Fusion® Embedded Development Kit



# Strand: FPGA Architectures & VHDL

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- Introduction to FPGAs & FPGA design flows
- Introduction to Synthesis
- The VHDL hardware description language
- Design verification, validation, and testing
  
- Programmable logic & FPGA architectures
- Actel's SoC Flash FPGA architectures
- Co-design & co-verification of HW/SW embedded systems
  
- Emerging technologies and future opportunities.

# Strand: Libero® Integrated Design Environment (IDE)

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- Libero® IDE overview
- Design entry
- Functional simulation
- Synthesis
- Layout
- Post-layout timing and power analysis
- Post-Layout simulation
- Programming
- Testing.

# Let's...

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