• Into the Wild: Studying Real User Activity Patterns to Guide Power Optimizations for Mobile Architectures
  – Android G1

• SHARK: Architectural Support for Autonomic Protection Against Stealth by Rootkit Exploits
  – Modifying Linux kernel

• Cache Bursts: A New Approach for Eliminating Dead Blocks and Increasing Cache Efficiency
  – Improving the L1 and L2 cache performance

• Characterizing Flash Memory: Anomalies, Observations, and Applications
  – Performance, power, reliability for 5 vendors
Sequential Y86 Implementation

1. Fetch
   - From PC
   - icode (4 bits) & ifun (4 bits) [valC (4bytes)]
   - Calc valP

2. Decode: get rA [rB] [%esp]

3. Execute
   - ALU → valE
   - Conditions set
   - Memory calculations
   - Stack pointer update

4. Memory: valM

5. Write back: registers)

6. PC Update: Set via valP

Why so much processing?