Workshop on Pioneering Processor Paradigms (WP3)

(Held in Conjunction with HPCA-2017; Saturday February 4th 2017, Austin, TX)

ADVANCE PROGRAM (morning)

Location: Hilton Austin, Room: 415B

7:30 AM – 8:30 AM *(room: 616AB)*: Breakfast (provided by the conference)

8:30 AM – 8:40 AM: Welcome and Introduction

- Pradip Bose; on behalf of the workshop co-organizers:

(Ramon Bertran, Pradip Bose, Robert Montoye, John-David Wellman)

8:40 AM – 9:40 AM: **Keynote – I: Prof. Yale N. Patt,**

Ernest Cockrell, Jr. Centennial Chair in Engineering

University of Texas at Austin

Talk Title: Processor Paradigms: Evolution or Disruption

9:40 AM – 10:00 AM: Stacked Memory Architectures

- Towards a memory-centric, stacked architecture for extreme-scale, data intensive computing: *John Leidel, Xi Wang and Yong Chen,* Texas-Tech University.

10:00 AM – 10:20 AM *(room: 616AB)*: Coffee/Tea Break

10:20 AM – 11:00 AM: Reconfigurable and Power-Efficient Architectures

- Two-level controlled parallel reconfigurable architectures: *Takanobu Baba, Kanemitsu Ootsu,* Utsonomiya University
- A survey of low-power NoC design techniques: *Emmanuel Ofori-Attah and Michael Opoku Agyeman,* University of Northhampton

11:00 AM – 11:40 AM: Statistical Methods in Computing

- Time-randomized processors for secure and reliable high-performance computing: *David Trilla, Carles Hernandez, Jaume Abella, Francisco Javier Cazorla,* UPC and Barcelona Supercomputing Center, Barcelona
- End-to-end stochastic computing: *Carly Schulz, Mikko Lipasti,* University of Wisconsin – Madison

11:40 AM – 1:15 PM: LUNCH (self)

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ADVANCE PROGRAM (afternoon)

Location: Hilton Austin, Room: 415B

1:15 PM – 2:15 PM: Keynote-II: **Prof. Jacob A. Abraham**

Cockrell Family Regents Chair in Engineering

University of Texas at Austin

Talk Title: Pioneering Paradigms in Systems Resilience

2:15 PM – 3:15 PM: Panel Session:

- **Notable Pioneering (Research) Paradigms** (that should have made it into real design, but didn't yet, or did make it in the end after lots of tweaks)
- **Panelists:** Prof. Yale Patt, Prof. Jacob Abraham, Prof. Mikko Lipasti
- **Moderator:** one of the workshop organizers

3:15 PM – 3:30 PM *(room: 616AB)*: Coffee/Tea Break

3:30 PM – 5:00 PM: Retrospective Surveys

- Cycle-accurate simulation advances in support of efficient & resilient design: *John-David Wellman (with Ramon Bertran and Pradip Bose),* IBM T. J. Watson Research Center
- Efficient floating point unit design - a historical perspective: *Robert Montoye,* IBM T. J. Watson Research Center