

# Schedule : Spring 2015

This is the tentative schedule of Mélange group for the Spring 2015 semester.

| WEEK | DATE       | TOPIC                                                                                                                                                                                                                                         | PRESENTER          |
|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1    | 02/02/2015 |                                                                                                                                                                                                                                               |                    |
| 2    | 02/09/2015 | <a href="#">Challenges for Future Computing Systems, by William J. Dally (NVIDIA)</a>                                                                                                                                                         | Sanjay Rajopadhye  |
| 3    | 02/16/2015 | No meeting                                                                                                                                                                                                                                    |                    |
| 4    | 02/23/2015 | <a href="#">Going beyond the FPGA with Spacetime, by Steve Teig (Tabula)</a>                                                                                                                                                                  | Sanjay Rajopadhye  |
| 5    | 03/02/2015 | Elevator talks with slides                                                                                                                                                                                                                    | Whole group        |
| 6    | 03/09/2015 | •<br>Fernando Machado Mendonca, Alba Cristina Magalhaes Alves de Melo, <a href="#">Biological Sequence Comparison on Hybrid Platforms with Dynamic Workload Adjustment</a> , IPDPSW '13                                                       | Swetha Varadarajan |
| 7    | 03/16/2015 | Spring Break                                                                                                                                                                                                                                  |                    |
| 8    | 03/23/2015 | No meeting                                                                                                                                                                                                                                    |                    |
| 9    | 03/30/2015 | •<br>Somnath Paul, Robert Karam, Swarup Bhunia, Ruchir Puri, <a href="#">Energy-efficient Hardware Acceleration Through Computing in the Memory</a> , DATE '14                                                                                | Mugdha Puranik     |
| 10   | 04/06/2015 | •<br>Sanket Tavarageri, J Ramanujam, P Sadayappan, <a href="#">Adaptive parallel tiled code generation and accelerated auto-tuning</a> , International Journal of High Performance Computing Applications 2013                                | Waruna Ranasinghe  |
| 11   | 04/13/2015 | •<br>M. Shafique, S. Garg, T. Mitra, S. Parameswaran, J. Henkel, <a href="#">Dark silicon as a challenge for hardware/software co-design</a> , Hardware/Software Codesign and System Synthesis (CODES+ISSS), 2014 International Conference on | Revathy Rajasree   |
| 12   | 04/20/2015 | TBD                                                                                                                                                                                                                                           | TBD                |
| 13   | 04/27/2015 | TBD                                                                                                                                                                                                                                           | TBD                |
| 15   | 05/04/2015 | TBD                                                                                                                                                                                                                                           | TBD                |

## Reading Pool

### Publications

#### 2015

- Fabio Luporini, Ana Lucia Varbanescu, Florian Rathgeber, Gheorghe-Teodor Bercea, J. Ramanujam, David A. Ham, Paul H. J. Kelly, Cross-Loop Optimization of Arithmetic Intensity for Finite Element Local Assembly, 2015
- Venmugil Elango, Naser Sedaghati, Fabrice Rastello, Louis-Noël Pouchet, J. Ramanujam, Radu

Teodorescu, P. Sadayappan, On Using the Roofline Model with Lower Bounds on Data Movement, 2015

- Martin Kong, Antoniu Pop, Louis-Noël Pouchet, R. Govindarajan, Albert Cohen, P. Sadayappan, Compiler/Runtime Framework for Dynamic Dataflow Parallelization of Tiled Programs, 2015
- Alessandro Cilardo, Luca Gallo, Improving Multibank Memory Access Parallelism with Lattice-Based Partitioning, 2015

## 2014

- R.L. Uy, Beyond multi-core: A survey of architectural innovations on microprocessor, 2014
- M. Shafique, S. Garg, T. Mitra, S. Parameswaran, J. Henkel, Dark silicon as a challenge for hardware/software co-design, 2014
- H.H.-W. Wang, L.Y.-Z. Lin, R.H.-M. Huang, C.H.-P. Wen, CASTA: CUDA-Accelerated Static Timing Analysis for VLSI Designs, 2014
- Rong Shi, Xiaoyi Lu, S. Potluri, K. Hamidouche, Jie Zhang, D.K. Panda, HAND: A Hybrid Approach to Accelerate Non-contiguous Data Movement Using MPI Datatypes on GPU Clusters, 2014
- J. Torrellas, Extreme-scale computer architecture: Energy efficiency from the ground up, 2014
- B.A. Hechtman, Shuai Che, D.R. Hower, Yingying Tian, B.M. Beckmann, M.D. Hill, S.K. Reinhardt, D.A. Wood, QuickRelease: A throughput-oriented approach to release consistency on GPUs, 2014
- M. Hayenga, V.R.K. Naresh, M.H. Lipasti, Revolver: Processor architecture for power efficient loop execution, 2014
- A. Ilic, F. Pratas, L. Sousa, Cache-aware Roofline model: Upgrading the loft, 2014
- Somnath Paul, Robert Karam, Swarup Bhunia, Ruchir Puri, Energy-efficient Hardware Acceleration Through Computing in the Memory, 2014

## 2013

- Sanket Tavarageri, J Ramanujam, P Sadayappan, Adaptive parallel tiled code generation and accelerated auto-tuning, 2013
- Tom Henretty, Richard Veras, Franz Franchetti, Louis-Noël Pouchet, J. Ramanujam, P. Sadayappan, A Stencil Compiler for Short-vector SIMD Architectures, 2013
- Fernando Machado Mendonca, Alba Cristina Magalhaes Alves de Melo, Biological Sequence Comparison on Hybrid Platforms with Dynamic Workload Adjustment, 2013

## 2012

- Jun Shirako, Kamal Sharma, Naznin Fauzia, Louis-Noël Pouchet, J. Ramanujam, P. Sadayappan, Vivek Sarkar, Analytical Bounds for Optimal Tile Size Selection, 2012

**2011**

- E. F. de O Sandes, A. C. M. A. de Melo, Smith-Waterman Alignment of Huge Sequences with GPU in Linear Space, 2011
- Louis-Noël Pouchet, Uday Bondhugula, Cédric Bastoul, Albert Cohen, J. Ramanujam, P. Sadayappan, Nicolas Vasilache, Loop Transformations: Convexity, Pruning and Optimization, 2011

**2000**

- R. Schreiber, S. Aditya, B.R. Rau, V. Kathail, S. Mahlke, S. Abraham, G. Snider, High-level synthesis of nonprogrammable hardware accelerators, 2000

**1997**

- R. Andonov, S. Rajopadhye, Knapsack on VLSI: From algorithm to optimal circuit, 1997

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