

# GPU Transactional Memory



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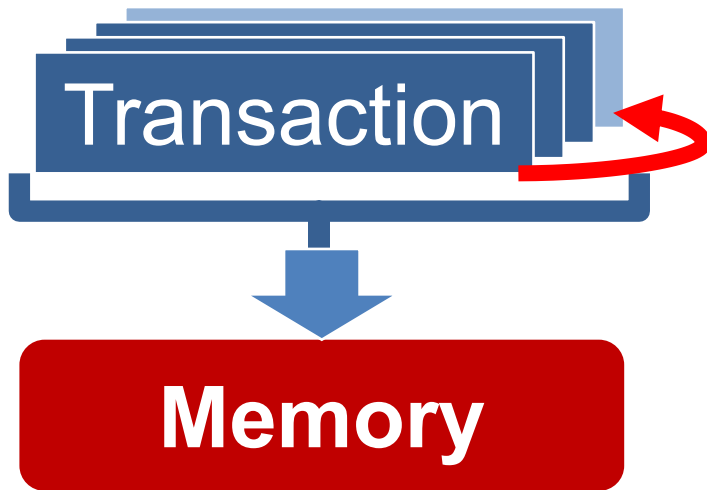


# Energy Efficient GPU Transactional Memory via Space-Time Optimizations

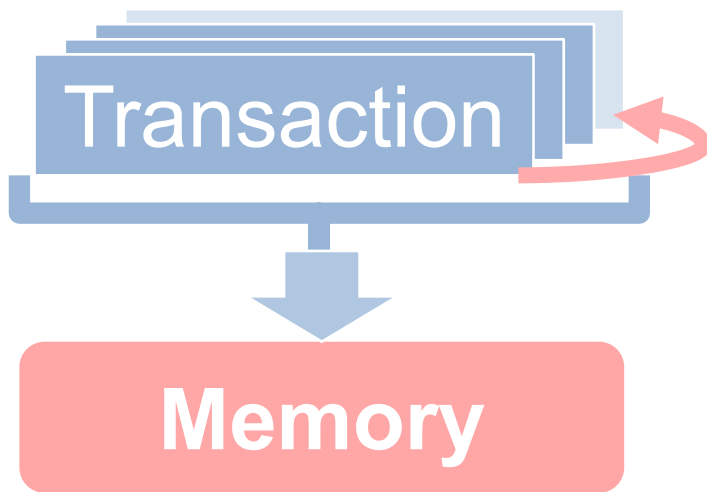
Wilson Fung, Tor Aamodt (UBC)



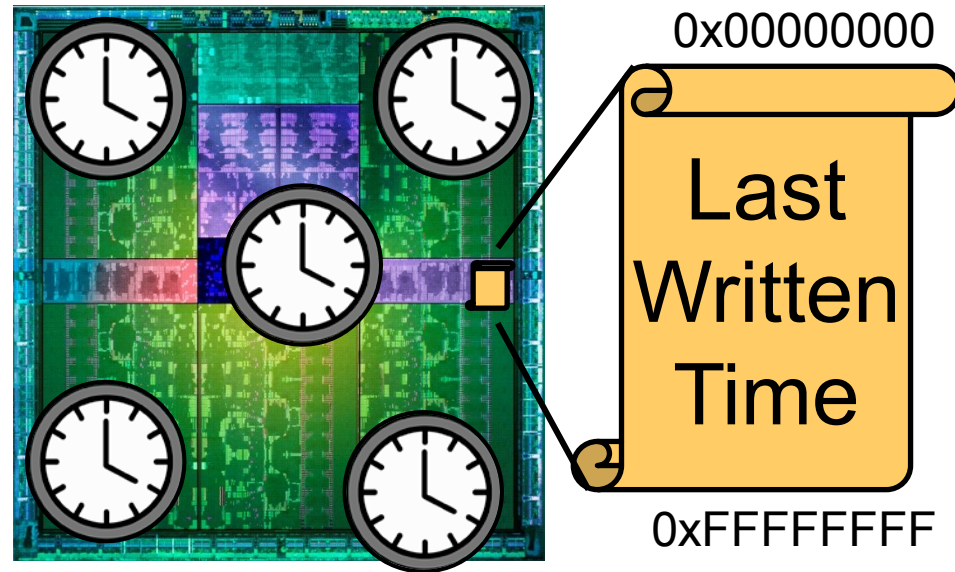
# Warp-Level Transaction Management



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# Temporal Conflict Detection



Low conflict workloads:  
**TM  $\approx$  Fine-Grained Locks**



**65%**  
**Speedup**

**2X  $\rightarrow$  1.3X**  
**Energy Usage**

# Energy Efficient GPU Transactional Memory

via Space-Time Optimizations

**Wednesday 10:15am, Section 6A**

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