

## SC 15 One minute Presentation

- Traditional partitioning schemes focus on dividing the total work equally among the processors (ideal/perfect load balancing) which will introduce communication cost imbalances between nodes.
- These communication imbalances can decrease the overall performance in program execution.
- We introduce new SFC based partitioning scheme which allows some flexibility in partitioning.
- Flexibility allowed in partitioning can be used to reduce communication imbalances between nodes, leading to increased performance.
- Our results show that, instead of traditionally used Morton curve based partitioning, using Hilbert curve based partitioning reacts better with the flexible partitioning, providing better locality properties compared to Morton curve.
- Since computation of Hilbert ordering is not trivial compared to Morton ordering we present a new algorithm based on Nearest Common Ancestor (NCA) for Hilbert ordering which is almost efficient as Morton ordering and 9 times faster than traditional Hilbert ordering calculation based on recursive approach.