

M&C 2017

International Conference on Mathematics & Computational Methods  
Applied to Nuclear Sciences & Engineering, April 16-20, 2017, Jeju, Korea

## Special Session Description

Session Title: **Advanced Methods to Exploit the Potential of Next-Generation Architectures**

Subject Area: 12. High Performance Computing for Nuclear Applications

### Organizer

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### Description

While there is some uncertainty as to what the next generation of high-performance computing architectures will be, there is very little uncertainty that they will be different from the ones in use today. This special session will be devoted to research into algorithms for taking advantage of the likely architectures of the near future. Topics include (but are not limited to):

- Effective use of millions of cores
- The use of graphical processing units (GPUs)
- Vector algorithms
- The use of co-processors
- Dealing with a reduction in memory per processor

All application areas pertinent to nuclear science and engineering are welcome, including deterministic and Monte Carlo transport, computational fluid dynamics, and computational materials science