

# **2021 OkIP International Conference on Advances in High-Performance Computing (AHPC)**

**Monday, November 15, 2021 - Thursday, November 18, 2021**

**MNTC Tech Campus, Oklahoma City, OK, USA and Online**

## **Scientific Tracks**

# Conference Technical Main Tracks

Conference technical main tracks

## HPC Concepts

- High Performance Computing (HPC)
- Performance | Scalability | Virtualization
- Visualization | Simulation | Modelisation
- Prediction | Program Optimization | Workloads
- Algorithms | Networks | Efficiency |Scheduling
- Compiler Design and Technologies
- HPC Components and Technologies
- Data Management and Transport | Compilation
- Load Balancing | Resource Management
- Fault Tolerance | Reliability | Availability
- Multicore Algorithms | Operating System
- Software Design and Implementations
- Asynchronous Methods | Interconnects
- Interconnections | Distributed Computing
- High Scalability Computing | Accelerators
- High Performance Modeling/Software/Tools
- Routing Protocols | Quality of Service
- Allocation Framework | Benchmarks |...

## Parallel Computing

- Parallelism | Automatic Parallelization
- Programming Languages/Libraries/Tools
- Programing Models/Environments
- Parallel Metaheuristics/Application-Behavior
- Parallel/Distributed Algorithms/Architectures
- Energy Factors/Technological Factors
- Partitioning and Optimal Scheduling
- Systems Performance/Potential/Efficiency
- Distributed/Heterogeneous Systems
- System Synergy and Optimization
- Advances in Parallel Models/Systems/Tools

## Mobile &Wireless Computing

- Communication Modeling/Designing/Analysis
- Mobile Communication Prediction/Control
- Mobile/Wireless Systems-of-Systems
- Mobile/Wireless Software and Hardware
- Heterogeneous Wireless Networks
- Medical Alert Devices/Privacy Consideration
- Wireless Sensor Network | IoT Platforms
- Mobile Network Loss Issues
- Ultra-Dense Networks | Mobile Performance
- Sensor Networks and Embedded Applications
- Innovative Mobile/Wireless Networks/Systems

## **Network Architecture/System**

- Interconnection Networks and Architectures
- Memory Architecture Evaluation
- I/O, File Systems and Memory System
- Power-Efficiency | Systems-on-Chip
- System Modeling Methodologies
- Fault-Tolerant Algorithms/Systems
- Scalable Servers and Systems
- Shared Memory Implementation
- Memory Exploitation/Management Techniques
- Network Storage Systems and Services
- Cluster Management/Architecture
- Heterogeneous Architectures/Accelerators
- Multi/Many Core/CPU Framework/Systems
- Micro-Architecture Techniques
- Reconfigurable Architectures/Systems

## **HPC AI/Simulation/Security**

- Surrogate Modeling | Machine Learning
- Neural Architecture Performance
- Deep Learning | Agent-based Modeling
- Intelligent Algorithm| Artificial Neural Network
- Distributed Deep Learning Systems
- Hybrid/Complex System Modeling/Simulation
- Advanced/Stochastic Simulation Frameworks
- Security, Policy and Management Issues
- Configuration, Policy, and Management issues
- Graph Partitioning/Analysis/Analytics
- Spiking Neural P Systems | Data Integrity
- Enabling Blockchain-as-a-Service
- Fuzzy Logic Approach | Streaming Algorithms
- Association Rule Mining | Anomaly Detection
- Big Data Analytics and Applications

## **HPC Applications**

- HPC Applications and Case Studies
- Grid/Cloud/Fog/Bio-inspired Computing
- Scientific/Engineering/Commercial Workloads
- Augmented/Virtual Reality
- Biotechnology, Nanotechnology and Finance
- Space Research, Urban Planning and Energy
- Teleimmersion | Collaborative Applications
- Media/Entertainment Industry | Visualization
- Workflow Management | HPC Resiliency
- Advanced Computational Methods/Applications

## **Other Conference Tracks or Activities**

Other conference tracks or activities

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