

HEP-QIS QuantISED Awards FY2019

| PI | Proposal Title | Institution | Institution Address | 9-Digit Zip Code |
|--|--|--|---------------------|------------------|
| Univeristy Awards | | | | |
| Formaggio, Joseph | Quantum Devices for Neutrino and Rare Particle Detection | Massachusetts Institute of Technology | Cambridge, MA | 02139-4307 |
| Wu, Sau | Application of Quantum Machine Learning to High Energy Physics Analysis at LHC using IBM Quantum Computer Simulators and IBM Quantum Computer Hardware | Board of Regents of the University of Wisconsin System, operating as University of Wisconsin-Madison | Madison, WI | 53715-1218 |
| Lawrence, Albion | Structure and Dynamics of Entanglement in Large Quantum Systems | Brandeis University | Waltham, MA | 02453-2728 |
| Balasubramanian, Vijay | Distributed Quantum Information: Theory and Applications | The Trustees of the University of Pennsylvania | Philadelphia, PA | 19104-6205 |
| Hartman, Thomas | Theory and Simulations of Emergent Geometry in Quantum Gravity | Cornell University | Ithaca, NY | 14850-2820 |
| Smith, Graeme | Measures of Holographic Correlation: Discovery, Interpretation, Application | The Regents of the University of Colorado d/b/a University of Colorado | Boulder, CO | 80303-1058 |
| National Lab Awards | | | | |
| Nomerotski, Andrei | Quantum Astrometry | Brookhaven National Laboratory (BNL) | Upton, NY | 11973-5000 |
| Barry, Peter | Quantum Sensors for Wide Band Axion Dark Matter Detection | Argonne National Laboratory (ANL) | Lemont, IL | 60439-4803 |
| Nanni, Emilio | Transduction for New Regimes in Quantum Sensing | SLAC National Accelerator Laboratory | Menlo Park, CA | 94025-7015 |
| Orrell, John | Phonon coupling to superconducting quasiparticle-sensitive sensors and qubits | Pacific Northwest National Laboratory (PNNL) | Richland, WA | 99354-1793 |
| Cancelo, Gustavo | Research Technology for QIST | Fermi National Accelerator Laboratory (FNAL) | Batavia, IL | 60510-5011 |
| Osborn, James | Discovering new microscopic descriptions of lattice field theories with bosons | Argonne National Laboratory (ANL) | Lemont, IL | 60439-4803 |
| Lyon, Adam | Large Scale Simulations of Quantum Systems on HPC with Analytics for HEP Algorithms | Fermi National Accelerator Laboratory (FNAL) | Batavia, IL | 60510-5011 |
| Yoo, Shinjae | Quantum Convolutional Neural Networks for High Energy Physics Data Analysis | Brookhaven National Laboratory (BNL) | Upton, NY | 11973-5000 |
| Spier Moreira Alves, Daniele | Renormalization of Entanglement in Quantum Field Theories | Los Alamos National Laboratory (LANL) | Los Alamos, NM | 87545-1362 |
| Pooser, Raphael | Challenges and Opportunities in Noise-Aware Implementations of Quantum Field Theories on Near-Term Quantum Computing Hardware | Oak Ridge National Laboratory (ORNL) | Oak Ridge, TN | 37831-6231 |
| National Lab Exemplar Awards | | | | |
| Brown, David | Search for Beyond the Standard Model Physics by Measuring the Fine Structure Constant | Lawrence Berkeley National Laboratory (LBNL) | Berkeley, CA | 94720-8099 |
| Plunkett, Robert | Matter-wave Atomic Gradiometer Interferometric Sensor (MAGIS-100) | Fermi National Accelerator Laboratory (FNAL) | Batavia, IL | 60510-5011 |
| National Lab Collaborative Awards | | | | |
| Sonnenschein, Andrew | Quantum Sensors for Wide Band Axion Dark Matter Detection | Fermi National Accelerator Laboratory (FNAL) | Batavia, IL | 60510-5011 |
| Alexeev, Yuri | Large Scale Simulations of Quantum Systems on HPC with Analytics for HEP Algorithms | Argonne National Laboratory (ANL) | Lemont, IL | 60439-4803 |
| Chang, Clarence | Quantum Devices for Neutrino and Rare Particle Detection | Argonne National Laboratory (ANL) | Lemont, IL | 60439-4803 |