MID-AMERICA CLUB
ITCONNECT

FEBRUARY 16, 2022 | **6:00PM** | **THE MID-AMERICA CLUB**
HOSTED BY ACM CHICAGO | CO-HOSTED BY POLYMORPHIC SYSTEMS, INC.

TOPIC: **A Nuclear Physicist's Guide to Quantum Computing**

SPEAKER: **Brent VanDevender, Ph.D.**
Chief Physicist
Pacific Northwest National Laboratory

WHEN: **February 16, 2022 – 6:00PM**

WHERE: **Zoom Online Presentation**
RSVP or call **312.861.1100**

Brent VanDervender is an experimental nuclear and particle physicist. His primary basic science interest is in the mass of the neutrino and its implications for the fundamental symmetries of new physics.Dr. VanDevender's applied physics interests include the safeguards and accountancy of fissile material, and the detection of nuclear explosions in violation of the Comprehensive Nuclear Test-Ban Treaty. Dr. VanDevender has interests in the intersections of nuclear physics and quantum information science.Dr. VanDevender is currently a Chief Physicist at the DOE's Pacific Northwest National Laboratory. Dr. VanDevender is also an Affiliate Associate Professor of Physics at the University of Washington.

Opening the Quantum Gate

Nuclear physicists imagine a future where general-purpose quantum computers will solve some of their hardest theoretical problems.

While they are among the ultimate end users of such machines, it is unclear they have much to contribute to their development. To the contrary, we will explore in this talk how quantum computing and related technologies can benefit nuclear and particle physicists, and how those physicists can also support the development of qubit technology.

Additionally, we will discuss applications of quantum sensors and qubits to the search for dark matter and elusive subatomic neutrinos.

Join Us As We Get Entangled

Come listen as Brent VanDervender explains how techniques from nuclear and particle physics may improve the performance of devices from quantum computers and sensors as well as helping map a new model of physics.

ABOUT PACIFIC NORTHWEST NATIONAL LABORATORY

Pacific Northwest National Laboratory is a different kind of national lab. PNNL advances the frontiers of knowledge, taking on some of the world's greatest science and technology challenges. Distinctive strengths in chemistry, Earth sciences, biology, and data science are central to our scientific discovery mission. Our research lays a foundation for innovations that advance sustainable energy through decarbonization and energy storage and enhance national security through nuclear materials and threat analyses. PNNL collaborates with academia in fundamental research and with industry to transition technologies to market.

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