



Calvin Mitchell HOPPER
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Distinguished Senior Development Engineer
Nuclear Criticality Safety

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Education:

B.S., University of Southern Colorado, Physics, 1970

“Q” security clearance held by U.S. DOE Oak Ridge Operations.

Previous Positions:

1997-present, Principle Investigator of U.S. Department of Energy Nuclear Criticality Safety Program, Task 3: Applicable Ranges of Bounding Curves and Data (1998-present)
1995-1997, Principle Investigator of U.S. Nuclear Regulatory Commission, Computational Sensitivity and Uncertainty Project
1994-1995, Head, ORNL Nuclear Criticality Safety Section, ORNL Office of Operational Readiness and Facility Safety
1984-1994, Nuclear Criticality Safety Officer, Oak Ridge National Laboratory
1981-1984, Nuclear Criticality Safety Department Head, Oak Ridge Y-12 Plant
1980-1981, Health Physics Department Technical Manager, Oak Ridge Y-12 Plant
1978-1980, HFIR Project Manager NRC Licensing and Nuclear Safety, Texas Instruments, Inc.
1970-1978, Nuclear Criticality Safety Engineer, Oak Ridge Y-12 Plant
1968-1970, Radiation Protection Oak Ridge Critical Experiments Facility and Oak Ridge Y-12 Plant Development Division

Other Expertise:

Principal Manager of the USDOE Criticality Practices & Safety Guide Project (1989-1994) responsible for development of a "USDOE Contractor Nuclear Criticality Safety Program Guide;"
Criticality Safety Consultant to U.S. Nuclear, Inc., Oak Ridge, TN (1974-1976).
Member of the USDOE Albuquerque Office Weapon Criticality Committee (1982-present)
Team Teacher (1988 - present) University of Tennessee NE 543, "Selected Topics in Nuclear Criticality Safety;"
Principal Manager of the USDOE Nuclear Criticality Technology & Safety Project (1989-1991)

Principal Manager of the USDOE Experiments to Address Discrepant Calculations Project
(1990-1991)
Periodic member of USDOE EH Technical Safety Appraisal (Tiger) Teams (1987-1990)

Professional and Research Interests:

Nuclear facility safety
Technical/scientific/programmatic/administrative nuclear criticality safety program management
Nuclear criticality safety analyses
Nuclear criticality safety evaluations
Nuclear engineering computational evaluations (e.g., diffusion theory, transport, Monte Carlo, cross-section)
Design Consultation
Process Consultation
Training
Auditing
Critical mass experimentation
Analysis of critical experiments

Professional Organization Memberships and Consensus Standard Development:

Convener for ISO TC 85/SC 5/WG 8 on criticality safety
Deputy Advisor and Technical Expert to the U.S. Nuclear Technical Advisory Group
Member and Past Chairman of American Nuclear Society (ANS) Nuclear Criticality Safety Division
Past Technical Program Chairman for the ANS Nuclear Criticality Safety Division
Chair American Nuclear Society Consensus Committee N16
Member ANS-8 Standards Subcommittee for Fissionable Materials Outside Reactors
Chairman of ANSI/ANS-8.7, Nuclear Criticality Safety in the Storage of Fissile Materials
Member of Working Groups:

- ANS-8. 1, Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors
- ANS-8.19, Administrative Practices for Nuclear Criticality Safety
- ANS-8.20, Nuclear Criticality Safety Training
- ANS-8.23, Criticality Accident Emergency Planning and Response:
- ANS-8.26, Nuclear Criticality Safety Specialist Training and Qualifications

Past Member of the East Tennessee Chapter of the American Health Physics Society
Member - American Nuclear Society - Nuclear Criticality Safety Division

Keywords:

Nuclear Engineering; Nuclear Criticality Safety; Nuclear Safety

Honors & Awards

2003 Colorado State University - Pueblo, Outstanding Alumni Achievement Award
Fellow of American Nuclear Society on Criticality Safety
U.S. National Nuclear Security Administration Certificate of Appreciation

UT-Battelle, LLC Excellence in Science and Technology Awards 2001, 2002, 2003
U.S. DOE Environment, Safety, and Health Certificate of Appreciation for Managing the
1994 Oak Ridge Field Office “Department of Energy ES&H Plutonium
Vulnerability Assessment.”