JEREMY N. MITCHELL

Nuclear Materials Science Group
MS E574, MST-16
Los Alamos National Laboratory
Los Alamos, NM 87545

jeremy@lanl.gov
(505) 655-3934 (office)
(505) 695-4841 (mobile)

EDUCATION

1993 Ph.D., Geology & Geophysics, University of Wyoming, Laramie, Wyoming.
1989 M.S., Geology, Miami University, Oxford, Ohio.
1986 B.A., Geological Sciences, Case Western Reserve University, Cleveland, Ohio.

EXPERIENCE

2019-present Scientist 5, MST-16, Los Alamos National Laboratory.
2007-2019 Scientist 4 and Materials Properties Team/Capability Leader, MST-16, Los Alamos National Laboratory.
2004-2007 Team Leader, Physical Metallurgy & Thermodynamics Team, NMT-/MST-16, Los Alamos National Laboratory.
1998-2004 Technical Staff Member, NMT-16, Los Alamos National Laboratory.
1995-1998 Postdoctoral Research Associate, Materials Science & Technology Division, Los Alamos National Laboratory.
1994-1995 Postdoctoral Research Associate, Department of Geological Sciences, University of Tennessee.

CURRENT RESEARCH INTERESTS

Phase stability and Phase transformations in plutonium and plutonium alloys; thermophysical and mechanical properties of plutonium and plutonium alloys; aging of plutonium; nuclear materials characterization; single-crystal growth and other synthesis methods for plutonium compounds and alloys; electronic structure of plutonium.

HONORS & AWARDS

2020 Defense Programs Award of Excellence for CMRR PF-4 Equipment Installation Phase 1 Team (Exceptional Achievement)
2017 Defense Programs Award of Excellence for significant contributions to the Stockpile Stewardship Program
2015 LANL Distinguished Performance Award, Small Team, Electronic Correlations in Plutonium
2014 Defense Programs Award of Excellence for the Chemistry and Metallurgy Research Replacement Critical Decision
2014 Defense Programs Award of Excellence for execution of first high-pressure high-Z diffraction experiment at the National Ignition Facility
2011 NNSA Certificate of Appreciation (W88 Pit Build)
2007 Defense Programs Award of Excellence for significant contributions to the Stockpile Stewardship Program (W88 Pit Engineering)
2006 Defense Programs Award of Excellence for significant contributions to the Stockpile Stewardship Program (Pu Aging)
2002 Defense Programs Award of Excellence for significant contributions to the Stockpile Stewardship Program (Pit Manufacturing)

1997 Invited Lecturer, Asian Science Seminar, Fukuoka, Japan (Japan Society for the Promotion of Science)
1993 Philips Petroleum Scholarship (University of Wyoming)
1992 Raymond J. Berryman Scholarship, Rochelle Belfer Memorial Scholarship, W.C. Hayes Memorial Scholarship (University of Wyoming); Phillips Petroleum Scholarship (Phillips Petroleum)
1991 S.H. Knight Scholarship (Wyoming Geological Association); Student Research Grant (Geological Society of America)
1990 Amoco Production Scholarship (Amoco Corporation); Walter C. Ackerman Scholarship (University of Wyoming); J. David Love Field Fellowship (Wyoming Geological Association)
1986 Presidential Scholar (Electron Microscopy Society of America)

SELECTED PUBLICATIONS

Mitchell, J. N., Dilatometry, *Plutonium Handbook*, Second Edition. 2019, American Nuclear Society, Inc.: La Grange Park, Illinois. p. 3155-3166.

Tobash, P. H., E. D. Bauer, J. N. Mitchell, and J. L. Sarrao, Flux Growth of Single-Crystals of Plutonium Compounds, *Plutonium Handbook*, Second Edition. 2019, American Nuclear Society, Inc.: La Grange Park, Illinois. p. 2920-2928.

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Bauer, E. D., P. H. Tobash, J. N. Mitchell, J. D. Thompson, and J. L. Sarrao, Physical Properties of Plutonium Intermetallic Compounds, *Plutonium Handbook*, Second Edition. 2019, American Nuclear Society, Inc.: La Grange Park, Illinois. p.1051-1170.

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Janoschek, M, P. Das, B. Chakrabarti, D. L. Abernathy, M. D. Lumsden, J. M. Lawrence, J. D. Thompson, G. H. Lander, J. N. Mitchell, S. Richmond, M. Ramos, F. Trouw, J.-X. Zhu, K. Haule, G. Kotliar, and E. D. Bauer, The valence-fluctuating ground state of plutonium, *Science Advances*, e1500188 (2015).

Mitchell, J. N., F. J. Freibert, T. E. Mitchell, and D. S. Schwartz, Aging and the $\delta \rightarrow \alpha'$ transformation in Pu-Ga alloys, *PTM 2015, Proceedings of the International Conference on Solid-Solid Phase Transformations in Inorganic Materials*, 523-528 (2015).

Schwartz, D. S. and J. N. Mitchell, Heating-cooling asymmetry in the gamma-delta transformation in plutonium: Clausius-Clapeyron considerations, *PTM 2015, Proceedings of the International Conference on Solid-Solid Phase Transformations in Inorganic Materials,* 529-530 (2015).

Farrow, A., J. Mitchell, T. Mitchell, T. Saleh, C. Knapp and D. Korzekwa, Solid-solid phase transformations during casting of plutonium, *PTM 2015, Proceedings of the International Conference on Solid-Solid Phase Transformations in Inorganic Materials,* 1075-1080 (2015).

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Kim, J. W., E. D. Mun, J. P. Baiardo, A. I. Smith, S. Richmond, J. Mitchell, D. Schwartz, V. S. Zapf and C. H. Mielke, Detecting low concentrations of plutonium hydride with magnetization measurements, *Journal of Applied Physics*, 117, 053905 (2015).

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Mitchell, T. E., J. P. Hirth, D. S. Schwartz, and J. N. Mitchell, The β-to-α phase transformation in plutonium, *Acta Materialia*, 61, 2895-2908 (2013).

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