

Andrew Wiedlea

438 Santa Clara Ave., Alameda, CA, 94501

📞 +1 (505) 310-5482 • ✉ andrew@wiedlea.com

Experienced program manager, policy analyst & system engineering leader, with strong experience in developing technology solutions for scientific, military, IT, energy, sensor & other project domains.

Employment

Lawrence Berkeley National Laboratory (LBNL)

Berkeley, CA

○ *Head of User Support & Head of Science-IT Departments*

May 2016–Present

Responsible for reinvigorating the general User Support environment and helping create a new Science-IT support Department, at a premier US laboratory, reporting to the CIO. My diverse team of 43 FTE (\$5.8M/year) made major advances in how LBNL provides High Performance Compute (HPC), data management, storage, and cloud computing. As part of the IT Division's senior leadership, I worked to introduce new identity management, storage, data transport, cloud compute, and many other capabilities to the Laboratory. My duties required me to work closely with laboratory programs by building a scientific consulting service supporting scientific principal investigators (PI) at our signature facilities: Advanced Light Source, Joint Genome Institute, Molecular Foundry, National Center for Electron Microscopy, etc.

- Identified key structural and capability shortfalls preventing successful engagement by the existing User Support organization with Scientific Principle Investigators (PI) and over a several year effort deployed management and technology fixes, leading to the creation of a new Department for long-term sustainment of this capability supporting LBNL.
- Deployed a wide variety of Science-IT capabilities supporting all aspects of scientific data management, computation, and analytics across many disciplines.
- Designed and deployed key back-end systems for program management, customer relationship tracking, and response management necessary to ensure improvements in mission support will endure.
- Supported the long-term health of institutionally supported HPC at LBNL and on the UC-Berkeley campus by obtaining support for long term investment and plans for data-center expansion, promoted shared use of resources between the UC Berkeley Campus and LBNL, and played a lead role in growth of UC Berkeley, UC Merced, and LBNL collaboration.
- Led efforts to successfully improve a wide range of IT capabilities at LBNL including our audio-visual and auditoriums, our technology outreach programs, our scientific-IT training programs, our scientific cloud computing (GCP, AWS), our abilities to deploy sensors leveraging IoT capabilities, and partnerships with Bay Area technology companies and other National Laboratories.

Defense Threat Reduction Agency (DTRA)

Ft. Belvoir, VA

○ *Branch Chief, Information Sciences and Applications Division*

2012–2016

I oversaw multiple Department of Defense and National Nuclear Security Agency laboratory development programs as an Operations Research Systems Analyst and program manager, and was responsible for the maintenance, contracting, and leadership for the DTRA Experimental Laboratory (DEL) computational support capability. The DEL supported most R&D activities at DTRA, including all development of modeling and simulation tools on NIPR/SIPR, provision of HPC and DREN access, provided the backbone for 24/7 global CWMD technical reach-back support to forces in the field. I also led the Global Knowledge Management System and Constellation CWMD platform efforts, intended to rapidly test emerging data management and query capabilities supporting OSD-Nuclear Matters mission needs. These efforts led to capabilities being fielded in support of DHS and DoD operational components for both national security and anti-Ebola efforts. Led and managed a mixed military-civilian-contractor team with budgets ranging from \$5M to \$35M/year over the period.

Defense Threat Reduction Agency (DTRA)

Ft. Belvoir, VA

- *Deputy Branch Chief, Innovation and Systems Engineering Office*

2007–2012

In this position, I was responsible, among many other duties, for predicting future performance of integrated nuclear detection architectures, as well as analyzing future military capability development efforts relating to Counter-Weapons of Mass Destruction (CWMD) and Intelligence, Surveillance and Reconnaissance (ISR) and Battle Management systems. I led the Nuclear Physical Security M&S Center of Excellence on behalf of the joint DoD-DOE Small Conflict Group, which is responsible for coordinating DoD Nuclear Weapon Facility Security analysis tools, methods, and analyses in support of operational planning for strategic DoD-DOE Roadmaps. Grew a portfolio of projects from \$1.7M to \$11.7M/year, standing up decision support and M&S tools as part of an overall analytic capability development effort supporting DTRA, STRATCOM, PACOM and OSD-Cost Assessment and Program Evaluation (CAPE). Predicted performance of fielded systems during test deployment of maritime radiological stand-off detection equipment via both simulation modeling and field validation and verification, in support of PACOM and Singaporean collaboration.

Los Alamos National Laboratory

Los Alamos, NM

- *Technical Staff Member, Statistical Sciences Group*

2001–2007

I was with the Nuclear Materials Technology and Statistical Sciences groups as a Post-Doc and later, Staff Member, at Los Alamos National Laboratory (LANL). As part of the Stockpile Stewardship program, I worked on a variety of simulation modeling and analysis projects relating to DoD and DOE weapon systems (RRW, TOW, HARPOON, AMRAAM, RAM, MDA), DHS sensor/CONOPS deployment studies (border security, mobile sensor, WMD and first responder related projects) and a number of facility design and vulnerability analyses. In this role, I was co-lead developer of a new system modeling tool called GROMIT (Graphical Representation Ontology Modeling Inference Tool) being used as part of on-going DoD and DOE stockpile surveillance efforts. Developed and managed a research portfolio (\$400-600K) while serving as one of LANL's Enterprise Integration Steering Committee members for NNSA's Advanced Design and Production Technology (ADAPT) campaign. In my final two years at LANL, I served as an Inter-Agency Personnel Appointment (IPA) to the Defense Threat Reduction Agency's System Engineering Branch.

- **Prior to 2001** I worked in a wide variety of settings from serving as a Graduate Student Research & Instructor teaching Quantitative Methods and Economics, to providing marketing support at the American Mobile Satellite Company in Washington, DC, to writing for an architectural industry newsletter in Oakland, CA.

Education

- **University of California, Berkeley** **Berkeley, CA**
Ph.D., Goldman School of Public Policy 2001
- **University of California, Berkeley** **Berkeley, CA**
M.P.P., Goldman School of Public Policy 1995
Environmental Careers Organization Fund Recipient, 1994
- **University of California, Berkeley** **Berkeley, CA**
B.A. Double Major History/Economics, 1991
Magna Cum Laude for General Scholarship
Phi Beta Kappa

Research.....

- **Thesis:** *Design for a Hostile Environment: Technical Policy-making and System Creation.*
My thesis studied the relationships between political and engineering factors influencing the design of a plutonium disposition facility.
- **Current Research Interests:** How scientists develop data management systems, what the Internet of Things means for national scientific infrastructures and how large scientific and technical systems are built and operated.

Selected Publications

- Wiedlea, Andrew, Safety, "Reliability, Stewardship, and Regret: Contributions to Dependable System Design from the Study of Highly Reliable Organizations," book chapter for volume issued by the *International Forum on Integrated System Health Engineering and Management in Aerospace*, 2010.
- Anderson-Cook, C.M., Graves, T., Hengartner, N., Klamann, R., Wiedlea, A.K., Wilson, A.G., Anderson, G., Lopez, G. "Reliability Modeling using Both System Test and Quality Assurance Data" *Journal of the Military Operations Research Society* 13 5-18 (2008).
- Graves, T.L., Hamada, M., Klamann, R., Koehler, A. and H.F. Martz, "Using Simultaneous Higher-Level and Partial Lower-Level Data in Reliability Assessments," *Reliability Engineering and System Safety*, 2007 (LA-UR-07-1567).
- Koehler, Andrew, "Expert Elicitation for Risk Assessment." Melnick, E., Everitt, B., *Encyclopedia of Quantitative Risk Assessment*. New York, NY, John Wiley & Sons, 2007 (LA-UR-0081).
- Graves, T.L., Hamada, M., Klamann, R., Koehler, A. and H.F. Martz, "A Fully Bayesian Approach for Combining Multi-Level Information in Multi-State Fault Tree Quantification." *Reliability Engineering and System Safety*, Vol 92, 10, 2007 (LA-UR-06-5849).
- Koehler, A., B. Sims, et al, "Expert Opinion in Reliability," *Encyclopedia of Statistics in Quality and Reliability*. New York, NY, John Wiley & Sons. 2006.
- Koehler, Andrew, "Safety Design Choice from Inside the Bunker: Examples from the Los Alamos Plutonium Handling Facility," chapter in *Constructing Risk and Safety in Technological Practice*, Routledge, London, UK, December 2002.
- Kirp, David L., Koehler, Andrew, and Jaime Rossi, "Moral Rorschachs: 1984 and The Plague After Half a Century," *The Nation*, May 4, 1998.

Awards

- NextGov BOLD Award, *Constellation Prototype*, 2014
- Distinguished Civilian Service Medal, Defense Threat Reduction Agency, 2014
- High Level Civilian of the Year, Defense Threat Reduction Agency, 2013
- Value Engineering Award, *Force on Force Evaluation and Analysis of KPP*, Office of the Secretary of Defense for Acquisition, Technology and Logistics, 2011
- LANL Technology Transfer Maturation Fund Recipient (\$50K) for GROMIT software development, 2006
- Distinguished Performance Award, *Nuclear Power Plant Vulnerability Team*, Los Alamos National Laboratory, 2003.

Other

- President of the San Francisco Bay Area Chapter of the International Council on Systems Engineering (INCOSE), 2018-2020.
- Science and Technology Policy Manager Level 3 Defense Acquisition University Certification.
- I am a licensed Private Pilot, beginning sailor and fascinated by engineered systems of all kinds.
- I have previously held DOE and DoD clearances and am eligible to do so in future.
- Prior to 2007, my legal name was Andrew Koehler.