

## Louise Maffitt

615 Truman SE

Albuquerque, NM 87108

505-844-8272

*lmaffit@sandia.gov; lmaffitt@gmail.com*

A Senior Research Associate for the New Mexico Institute of Mining and Technology's Institute for Engineering Research and Applications (IERA), Louise Maffitt has over thirty years of experience as a producer, program manager, and information management specialist for public, industry and government entities. Working with scientists, public policy experts, federal agency staff, public stakeholders and environmental consultants, Louise has worked to facilitate "open" dialogue and help build consensus; to clearly communicate the objectives, methods and results of risk-based decision support initiatives; and to coordinate the efforts and resources of multi-disciplinary collaborative teams. Ms. Maffitt is versed in decision support, infrastructure systems research, interdependencies analysis, and network modeling approaches. She develops multi-platform information products in which highly technical content is tailored to the needs of diverse audiences.

A consultant to Sandia National Laboratories' environmental decision support and infrastructure interdependencies modeling programs for the past twenty years, Louise makes conceptual contributions to individual projects in addition to providing research, design and production of visual, written, and computer user interface products for complex, multi-disciplinary system modeling efforts. She has been a contributing member of numerous award-winning teams, garnering many accolades from project leaders.

### **EDUCATION**

1986, B.F.A. with distinction, University of New Mexico, Art / Art History

### **PROFESSIONAL EXPERIENCE**

2002 – Current \* Senior Research Associate

*New Mexico Institute of Mining and Technology, Socorro, NM*

- Consultant to decision support, infrastructure systems research, and interdependencies analysis programs for Sandia National Laboratories.

Complex Adaptive System of Systems (CASoS) Engineering Initiative (2006-present)

The CASoS project uses modeling and simulation within an evolving theoretical framework to address problems within the vastly complex and critically important socio-economic-technical systems that are fundamental to the security of the Nation and the globe, providing engineered solutions for mitigating risk. <http://www.sandia.gov/CasosEngineering/>

National Infrastructure Simulation and Analysis Center (2002-2010)

NISAC provides strategic, multi-disciplinary risk-based analyses of interdependencies and the consequences of infrastructure disruptions across all 18 critical infrastructure and key resource (CIKR) sectors at National, regional, and local levels. NISAC experts have developed and are employing tools to address the complexities of interdependent national infrastructures, including process-based systems dynamics models, mathematical network optimization models, physics-based models of existing infrastructures, and high-fidelity agent-based simulations of systems.

1993 – 2002 \* Program Manager

University of New Mexico, Albuquerque, NM

- Consultant to environmental technology programs for Sandia National Laboratories. Responsibilities included: creative articulation of risk-based decision support technologies; development of communications and information management tools; technical writing, editing, and publication of program reports; development, production and publication of training and outreach materials; production and facilitation of national meetings; proposal development; coordination and facilitation of training programs; design, production and maintenance of web sites as program management tools; documentation of meetings and conference calls; technical illustration and logo design.

SNL / JNC Collaborative Program in Repository Science (2001-2002)

Innovative Treatment Remediation Demonstration (2000-2002)

Navajo Nation / US Federal Laboratories Partnership Initiative (1999-2002)

SmartSampling (1996-2002)

A decision support technology in which Environmental decisions are explicitly stated in terms of risk-based economic objectives and regulatory compliance. Analytical and graphic outputs are focused on the needs of the decision makers, regulators and stakeholders, providing a significant contribution to minimization of cost and maximization of compliance

Environmental Decision Support and Resource Coalition (1994-1996)

- Consultant to software development program for Sandia National Laboratories. Responsibilities included: analysis, needs interpretation, and design collaboration for evolving software program; technical documentation development/production; development/delivery of training programs for distinct functional groups; development, implementation and facilitation of User Group program; development and composition of DOE Security Plan and Software Quality Assurance Plan; planning, coordination and delivery of twice-yearly national meetings.

SECOM (1996-1999)

- Co-Producer and Program Manager for distance-learning series *Radioactive Waste Management, Environmental Risk Management* and *Mixed Waste Management*. Responsibilities included: program development; planning, production and editing of technical documentaries; proposal and budget development; presentations to federal agency funding groups; planning and coordination of conferences and meetings; www site design and implementation; design and production of training courses, outreach and educational materials, logo design.

National Environmental Technology Network (1993 – 1994)

1987 - 2011 \* Executive Producer

LM Productions, national clientele

Production Manager, Author, Designer/Creative Consultant, Editor. Responsibilities included: project development and administration; technical writing and editing, contract negotiation and staff management; development, design and production of documentary, training/promotional video, film and print projects; direction/supervision of research; design; location management.

Stanford University

UCSF Mount Zion Medical Center

Phillips Laboratory

Maui High Performance Computing Center

Albuquerque Academy

ETS, Inc.

Universal Pictures

PBS / Buchwald Productions

Harris Filmworks

Mountainair Films

1983-1986 \* Producer

*KNME TV, PBS, Albuquerque NM:*

Producer of weekly half-hour public and cultural affairs program. Responsibilities included: story development and research; interviewing, scripting; location/field direction; videotape editing; Program content included technical/scientific, political/social and artistic subject matter.

Technical/scientific interviews included Hans Bethe, Linus Pauling and Edward Teller.

1973-1979 \* General Manager / Photographer / Graphic Designer

*Tropos/The Enlarger, St Louis MO:*

Owner/operator Photography Studio and Laboratory. Responsibilities included: corporate sales; administration of financial and vendor relationships; hiring and supervision of four employees; aerial and studio photography; graphic design and layout for annual reports, catalogs, community publications and album covers.

### **PUBLICATIONS**

- 2012 Linebarger JM, Detry RJ, Glass RJ, Beyeler WE, Ames AL, Finley PD, Maffitt SL, Complex Adaptive Systems of Systems (CASoS) Engineering: Environment Version 1.0, Sandia National Laboratories, February 2012
- 2012 Glass RJ, Beyeler WE, Ames AL, Brown TJ, Maffitt SL, Brodsky NS, Finley PD, Moore TW, Mitchell MD, Linebarger JM, Complex Adaptive Systems of Systems (CASoS) Engineering and Foundations for Global Design, Sandia National Laboratories, January 2012
- 2011 Brown TJ, Glass RJ, Beyeler WE, Ames AL, Linebarger JM, Maffitt SL, Complex Adaptive System of Systems (CASoS) Engineering Applications: Version 1.0, Sandia National Laboratories Report, October 2011
- 2011 Glass RJ, Brown TJ, Ames AL, Linebarger JM, Beyeler WE, Maffitt SL, Brodsky NS, Finley PD, et al., Phoenix: Complex Adaptive Systems of Systems (CASoS) Engineering Version 1.0 , Sandia National Laboratories, September 2011
- 2011 Brodsky NS, Ames AL, Glass RJ, Brown TJ, Finley PD, Linebarger JM, Zagonel AA, Maffitt SL, Application of a Complex Adaptive Systems of Systems Analysis Approach to Tobacco Products, 8th International Conference on Complex Systems, June 2011
- 2011 *Complex Adaptive Systems of Systems (CASoS) Engineering: Mapping Aspirations to Problem Solutions*, Robert J. Glass, Arlo L. Ames, Theresa J. Brown, S. Louise Maffitt, Walter E. Beyeler, Patrick D. Finley, Thomas W. Moore, John M. Linebarger, Nancy S. Brodsky, Stephen J. Verzi, Alexander V. Outkin, and Aldo A. Zagonel, May, 2011
- 2010 *Defining & Evaluating Threats and Designing Mitigation Strategies for VA Healthcare*, Robert Glass, Thomas Moore, Walter Beyeler, Arlo Ames, S. Louise Maffitt, Patrick Finley (Sandia National Laboratories); Ronald Norby (Veterans Health Administration 10N/VISN 22); Victoria Davey (Veterans Health Administration Office of Public Health and Environmental Hazards), May 2010
- 2010 *Life after Cancer: A Roadmap for Cancer Survivors*, <http://www.cancersupportivecare.com/Survivor>
- 2008 *A General Engineering Framework for the Definition, Design, Testing and Actualization of Solutions within Complex Adaptive Systems of Systems (CASoS) with Application to the Global Energy System (GES)*, Robert J. Glass, Arlo L. Ames, Walter E. Beyeler, Bernard Zak, David A. Schoenwald, Sean A. McKenna, Stephen H. Conrad , S. Louise Maffitt, Sandia National Laboratories, December 2008 (2008-7952)

- 2008 *Sandia National Laboratories: A Roadmap for the Complex Adaptive Systems of Systems CASoS) Engineering Initiative*, Robert J. Glass, Arlo L. Ames, William A. Stubblefield, Stephen H. Conrad, S. Louise Maffitt, Leonard A. Malczynski, David G. Wilson, Jeffery J. Carlson, George A. Backus, Mark A. Ehlen, Keith B. Vanderveen, and Dennis Engi, Sandia National Laboratories, September 2008 (2008-4651)
- 2007 *Everyone's Guide to Cancer Survivorship: A Road Map For Better Health*, Ernest Rosenbaum, MD, David Spiegel, MD, Patricia Fobair, LCSW, MPH, Holly Gautier, RN, with Louise Maffitt, BFA, Foreword by Sandra J. Horning, MD, Andrews McMeel Publishing, 2007
- 2005 *Everyone's Guide to Cancer Supportive Care: A Comprehensive Handbook for Patients and Their Families*, Ernest Rosenbaum, MD, Isadora Rosenbaum, MA, Andrews McMeel Publishing
- 2002 *Innovative Treatment and Remediation Demonstration Program: FY 2001 Year End Report*, Sandia National Laboratories
- 2002 *ITRD Hanford 200 West Area Carbon Tetrachloride Project Innovative Remediation Technology Review 1999-2000*, Sandia National Laboratories
- 2001 *ITRD Hanford 100-N Area Remediation Options Evaluation Summary Report*, Sandia National Laboratories
- 2001 *Innovative Treatment and Remediation Demonstration Program: FY 2000 Year End Report*, Sandia National Laboratories
- 2000 *SmartSampling™ Accelerated Site Technology Deployment Training Seminar*, Sandia National Laboratories
- 1999 *SECOM TAIMS Software Training Modules and User Guides, Versions 1.0 - 4.0*, Sandia National Laboratories

#### **AWARDS**

- 2004 Sandia National Laboratories Employee Recognition Award, Fast Analysis and Simulation Team
- 2001 Sandia National Laboratories Self-Assessment Program Award, ITRD program
- 2000 Sandia National Laboratories President's Team Recognition Award, SmartSampling
- 1997 Department of Energy Total Quality Management Award for Team Building, TAIMS
- 1994 United States Distance Learning Association, "Best Direct Satellite Special Event," Associate Producer, *Teaching Around Television: The Challenges, The Opportunities*
- 1993 United States Distance Learning Association, "Most Outstanding Distance Learning Network," Associate Producer / Program Manager, *Environmental Risk Management and Radioactive Waste Management*
- 1985 Rocky Mountain Emmy, *How Great Thou Art*, Associate Producer, one hour PBS documentary

#### **CONTINUING EDUCATION**

- |                                                           |                                               |
|-----------------------------------------------------------|-----------------------------------------------|
| 1994 Hazardous Waste Operations and Emergency Response    | 1999 Advanced HTML Authoring                  |
| 1994 MacroMedia Director                                  | 2000 MacroMedia Authorware Scripting Language |
| 1995 HTML Authoring                                       | 2001 Effective Technical Report Writing       |
| 1995 Multi-Attribute Utility Analysis                     | 2002 MacroMedia Dreamweaver                   |
| 1997 ArcView                                              | 2003 Adobe Dreamweaver                        |
| 1998 Microsoft Project                                    | 2009 Adobe Framemaker                         |
| 1999 Sandia National Laboratories Effective Team Building | 2011 HTML5                                    |