

Ian H. von Lindern, Ph.D., P.E.

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Education

Ph.D., Environmental Science and Engineering, Yale University, 1980

M.F.S., Biometeorology and Atmospheric Studies, Yale University, 1973

B.S., Chemical Engineering, Carnegie-Mellon University, 1971

Professional & Technical Certifications

Professional Engineer, Idaho # 3044 ChE (1975)

Professional Experience

Ian von Lindern is co-founder of TerraGraphics International Foundation (TIFO), a non-profit humanitarian environmental response organization. He served as Chief Executive Officer and Principal Scientist of TerraGraphics Environmental Engineering Inc. from 1984-2014. Under his direction, TerraGraphics developed into a one-hundred person multidisciplinary environmental firm, specializing in the design and management of complex projects including site characterization, risk assessment, hazardous waste remediation, engineering design, GIS and database, and remediation oversight. He has 46 years of national and international engineering and scientific experience that includes a variety of environmental assessments; studies in air, water, and soil pollution; toxic and hazardous materials investigations; remedial and cleanup plans; human health risk assessments; and application of statistical analysis techniques to multidisciplinary environmental problems. He has directed more than 40 major health/environmental projects including primary and secondary smelters, used battery processors, landfills, uranium mill tailings, and organic chemical waste sites in the U.S. He has designed and implemented international health risk assessment/remediation projects in countries with high levels of childhood morbidity and mortality including Russia, China, Peru, Bangladesh, Dominican Republic, Senegal, Nigeria, and Kyrgyzstan.

As a Principal Scientist at TIFO, Dr. von Lindern works with marginalized mining and recycling communities around the world to address pollution-related health and environmental issues. Projects are implemented at the local level acknowledging diverse ethnic, religious, socio-economic, and geographic backgrounds to protect future generations and maintain livelihoods in vulnerable communities. TIFO's mission focuses on building environmental health capacity in both the host countries and the next generation of US scientists by sponsoring and directing collaborative projects, pairing US and local professionals and students; and encouraging programmatic research publications summarizing project outcomes and lessons learned. Since 2010, TIFO has partnered with Médecins Sans Frontières (MSF, Doctors Without Borders) in implementing joint medical, public health and environmental responses. TIFO's recent projects are evolving into a global juxtaposition of simultaneously assisting indigenous and disadvantaged communities in both the US and poor/middle income countries responding to the exponential demand for gold and green-energy technologies in the US, central Asia and west Africa. These projects offer promise of reviving a specialty metals industry in the US and providing subsistence incomes for poor populations suffering from climate-related loss of traditional agricultural and pastoral support systems. Conversely, there is the potential for catastrophic health and environmental damages. US efforts involve rigorous technical analysis of sophisticated regulatory environmental impact and permit applications, conveying that to uninformed communities, and advocating for the highest levels of environmental responsibility. Responses in poor countries involve identifying and implementing protective measures achievable within the socio-economic, political and economic capacity of the community. International projects often involve developing practicable community, family, and individual worker level health interventions, as governments often lack the resources and capacity to effectively regulate industry in either the artisanal or formal sectors.

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Dr. von Lindern has served as an EPA Science Advisory Board and Clean Air Scientific Advisory Committee (CASAC) Subcommittee Member on several occasions, including: EPA Criteria Assessment Committee for Lead in the Ambient Air (1975-1977), and subsequent CASAC NAAQS lead reviews (1982-1986, 2006-2008); Review Subcommittee Assessing the Use of the Biokinetic Model for Lead Absorption in Children at RCRA/CERCLA Sites (1988); Subcommittee Assessing the Consistency of Lead Health Regulations in U.S. EPA Programs (1992); SAB Review Subcommittee for Urban Soil Lead Abatement Demonstration Project (1993); the Ad Hoc All-Ages Lead Model (AALM) Review (2005-2007, 2019-2020); External Peer Review of EPA's Draft Report – Proposed Modeling Approaches for a Health-Based Benchmark for Lead in Drinking Water (2017).

Project Experience

Example Consulting Projects Directed by Dr. von Lindern

Bunker Hill Mining and Metallurgical Complex/ Coeur d'Alene Basin Superfund Site, Idaho, 1974–2016

Dr. von Lindern has worked for the State of Idaho on various projects involving the Bunker Hill/Coeur d'Alene Basin Superfund Site for more than 40 years, both as the lead Risk Assessor and as TerraGraphics Project Manager for the State of Idaho CERCLA activities. In 1974, as an Environmental Engineer for the State of Idaho, he directed the field study of lead intoxication in children surrounding the Bunker Hill smelter. As the state oversight contractor for more than 20 years, his duties have included initial contact with local leaders, assisting IDEQ in Cooperative Agreement and PRP negotiations, legislative committee presentations, moderating Task Force meetings, reviewing PRP and EPA activities, and developing the risk management strategy and site-specific cleanup criteria. He has a number of peer-reviewed publications on the reduction of childhood blood lead levels and remedial activities at this site. He also represented the IDEQ at the National Academy of Sciences (NAS) review of this Project in Washington D.C. (Superfund and Mining Megasites Lessons Learned from the Coeur d'Alene River Basin, (NRC 2005)).

Washington State Department of Justice – Natural Resources Division Litigation Support and Expert Witness, Northeastern Washington State, December 2009– December 2012

Dr. von Lindern provided expert witness testimony and reports for numerous enforcement and civil environmental liability lawsuits and litigation at sites throughout the United States. He was Principal-in-Charge for a contract with the Washington State Attorney General Office, Natural Resources Division, regarding potential mining contamination in northeastern Washington state. He and other TerraGraphics personnel researched and visited numerous abandoned mine sites and collected samples to assess metal contamination. Dr. von Lindern provided his expert opinion to the client for litigation support.

Trail of the Coeur d'Alenes and Bayhorse Ghost Town Remediation and Idaho State Parks and Recreation (IDPR) Development

The Bayhorse Mine property is a well-known “ghost town” near Challis, Idaho with substantial historic value. After completion of an ASTM Phase I ESA and All Appropriate Inquiry standards, the IDPR was considering the site for development as a State of Idaho Park and wanted to ensure the site was suitable for such use. Dr. von Lindern led the team that completed the assessment of human health risk and water quality concerns for the purchase of the Bayhorse Mine property. After the assessment, IDPR successfully acquired the Bayhorse Mine properties for converting the “ghost town” and associated abandoned mine holdings into a cultural, historical, and adventure recreation park.

The Park design mimics innovative risk management strategies used at the Trail of the Coeur d'Alenes State Park in northern Idaho. Dr. von Lindern assisted IDEQ, IDPR, the U.S. EPA and other related agencies at both Parks by developing a risk management strategy that is protective of human health and the

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environment, while allowing public access and preserving the historic and recreational value of the resource. The Park opened to the public in June 2009.

Example TIFO Humanitarian / Non-Profit Projects Directed by Dr. von Lindern

In 2005, the US National Academy of Sciences' exhaustive review of the BHSS cleanup effort determined the health response methodologies were sound and effective. Subsequently, Dr. von Lindern co-led the joint Research & Development initiative between TerraGraphics and the University of Idaho to apply environmental cleanup methodologies developed in Idaho mining districts to hazardous waste sites in low and middle-income countries. Humanitarian cleanups were undertaken in conjunction with local governments, universities, and NGOs in a variety of cultural, socio-economic and governmental venues in Russia, China, Dominican Republic, Senegal, and Nigeria. In 2012, he and Dr. Margrit von Braun sold the for-profit firm and founded TIFO as an independent non-profit organization to assist international communities in remediating hazardous waste sites. TIFO has conducted workshops and human health risk assessments in Kyrgyz Republic, Armenia, Slovenia, Bangladesh, and Mongolia in collaboration with local governments, universities, hospitals, and NGOs, including the international humanitarian organization Médecins Sans Frontières (MSF, Doctors Without Borders).

Lead Poisoning – Emergency Health Response, Haina, Dominican Republic 2007-2011.

The community of Paraiso del Dios bordered a former used lead acid battery recovery operation in the port city of Haina near Santo Domingo. In 1997, several hundred children were surveyed and found to have a mean blood lead level of 71 µg/dL (range: 9-234 µg/dL); twenty-eight percent (28%) of children required immediate medical treatment. Residents reported that several children suffered seizures during the factory's operational years and continue to exhibit learning disabilities. The factory closed in 2000 and a repository for waste materials was developed on-site. The site was then abandoned and was subject to extensive uncontrolled salvage activities. The concrete retaining wall was scavenged, releasing large amounts of buried waste into the community during rain events. The exposed wastes, exceeding 30% lead, were sold as scrap. Highly contaminated materials were recycled and used as building material and fill in the adjacent community. Children from the surrounding community accessed the industrial site on a daily basis, tracking soils from the site and exposing the rest of their families.

Dr. von Lindern designed and directed a sampling and risk assessment program in 2006-07, when the area was named one of the world's top ten most polluted sites. Extremely high lead concentrations were found on site and in adjacent residential lots. Contaminated wastes in the failed repository showed concentrations from 30% to 45% lead. Surface soil lead concentrations ranged from 4,000 to >300,000 mg/kg, orders of magnitude above the USEPA limit of 400 mg/kg. The project team then collaborated with the Ministries of Health and Environment to develop an intervention strategy recommending a blood lead monitoring and follow-up program, relocation of all high-level wastes to an off-site repository, an on-site repository for the low-level and mid-level soils, and dedication of the property as a public park with appropriate institutional controls to ensure sustainability. A blood lead monitoring program began in 2007 and found 80% of children >10 µg/dL, 24% >40 µg/dL, and 7% >70 µg/dL. In 2008, the Dominican Republic government commissioned a cleanup in which Dr. von Lindern provided technical assistance. More than 3000 cubic meters of hazardous wastes and 4000 cubic meters of contaminated soils were removed. The site was turned in to an “ecological park” with a dedication ceremony in 2010. The Ministry of Environment introduced the park as the first step in initiating a cleanup program for the entire country and dedicated an “ecological mural” to the Dominican environment and “heroes” of the cleanup effort.

Lead Poisoning – Emergency Health Response, Dakar, Senegal 2009-2011.

Thiaroye Sur Mer (TSM) was the site of Used Lead Acid Battery recovery since the 1970s. Multiple groups recovered lead from batteries to manufacture weights for local fishermen. Several thousand tons of discarded

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battery sludge accumulated in the area over three decades. In 2007, dramatic increases in lead prices stimulated East Indian traders to purchase the lead oxide sludge. To minimize shipping costs, 200 local women were employed to sift out beach sand that had accumulated with the sludge. The process involved transporting, drying, sifting, and bagging the lead dust. Bags of lead product were stored in homes prior to sale. Many mothers brought their infants and toddlers with them to work. In 2007-08, 18 children died as a direct result of lead exposures. Mean blood lead levels in children were $>100 \mu\text{g}/\text{dL}$ and individual levels were $>350 \mu\text{g}/\text{dL}$

Limited emergency remediation activities were undertaken in April and May of 2008. Three-hundred (300) tons of lead were removed from local homes. The World Health Organization (WHO) tested siblings of the deceased children and forty-one children were subsequently hospitalized and placed in temporary foster care. Massive flooding of the area during the rainy season delayed further action. After the flood subsided, TIFO collaborated with other partners to conduct extensive sampling and interviews of the TSM population. In collaboration with the Ministries of Health and Environment, Dr. von Lindern developed a health response and remediation strategy that was implemented in April 2009. The strategy included establishment of sentinel homes in the community where intensive interviews and sampling were conducted to determine the extent and severity of continuing exposures and to identify active lead exposure pathways. These homes and resident children were monitored to assess the effectiveness of the cleanup.

Lead Poisoning – Emergency Health Response, Zamfara and Niger State, Northern Nigeria, May 2010–Present

Beginning in 2010, Dr. von Lindern spent several months in northern Nigeria directing the characterization and remediation of the world's worst lead poisoning epidemic. The 2010-2013 epidemic in Zamfara, Nigeria was unprecedented in morbidity, mortality, and in the environmental health response. More than 400 young children died from acute lead poisoning associated with artisanal gold mining. Soil removal protocols developed at the U.S. Bunker Hill Superfund Site were adapted to local resources, labor practices, and cultural traditions. Dr. von Lindern and other TerraGraphics personnel worked cooperatively with local authorities, MSF, the Centers for Disease Control (CDC), the World Health Organization, the Blacksmith Institute, and government officials and villagers in remote areas to develop an emergency response and remove contaminated soils.

In 2011, TerraGraphics was recognized by the United Nations Environment Programme (UNEP) and Green Cross International with the Green Star Award, given to every two years in association with UN reviews of its environmental programs to recognize those who have made remarkable efforts to prevent, prepare for, and respond to environmental emergencies around the world. In 2012-13, remediation progressed from emergency response by international personnel to comprehensive cleanup implemented by the Nigerian government. TerraGraphics humanitarian successor, TIFO, partnered with MSF to provide guidance and assistance the Nigerian Federal, Zamfara State and local governments in the completion of the largest and most comprehensive cleanup implemented and funded by an African government. More than 27,000 m³ of contaminated soils were removed from 820 residential areas and ore processing areas in eight villages, largely by hand labor, and disposed of in constructed landfills. Soil lead exposures decreased 97% for more than 17,000 villagers, allowing chelation treatment of 2349 children. Mean blood lead levels for children ≤ 5 years age declined from $173 \mu\text{g}/\text{dL}$ to $<20 \mu\text{g}/\text{dL}$ over the four-year US \$5M remedial program.

Subsequently, TIFO, MSF and other NGOs assisted local, state, and federal leadership in implementing long-term prevention and management programs in Zamfara State. In 2016, a second ASGM poisoning event killed 28 children in neighboring Niger State. The federal government requested TIFO assistance and mobilized trained technicians from Zamfara to lead the assessment and cleanup. Remediation was fully implemented with Nigerian funds, and Niger State assumed takeover of both medical and environmental operations and maintenance in 2018. This successful application was the impetus for the Nigerian Ministry of Mines and Steel/World Bank/MSF/TIFO sponsored Conference in Abuja in 2018, examining the legalization and support of ASGM as a mechanism to address poverty and population displacement in the Sahel, employing safer-mining initiatives.

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Continued TIFO-Médecins Sans Frontières Collaborations: Bangladesh and Kyrgyzstan 2011-Present.

In 2014, following successful collaborations in west Africa, MSF and TIFO's partnered to assess and address pollutant-related hazards at formal and informal leather tanneries; small-scale plastic, aluminum, foundry, and textiles recycling operations; and artisanal family-scale scavenging and waste recovery and reuse operations in urban slums in Dhaka, Bangladesh. MSF has since been operating occupational health clinics employing environmental health/occupational remedies for several thousand workers and families.

Since 2016, TIFO and MSF have partnered with the Kyrgyz Ministry of Health (MOH) assessing the potential, and emergency response considerations, for seismic and climate-related catastrophic release of legacy mining and smelting hazardous wastes accumulated over 70 years of operations at the former Soviet Union's largest mercury and antimony factories. TIFO provided assistance with Staff Health and Safety planning and performing a Human Health Risk Assessment for women and children's health issues in the mercury/antimony/gold mining communities. In 2019, the joint TIFO/MSF/MOH team collected >500 soil, air, water and food samples to support health assessment and target blood, urine and hair surveys scheduled for summer 2020. These results will support establishing environmental/occupational health monitoring/intervention capacity in the local government, as Kyrgyz officials revitalize the Soviet-era mining operation to support the local economy and meet the growing demand for mercury in ASGM.

Gold and Strategic Minerals Development Impact Evaluations on Historic Tribal Lands, Intermountain West, USA, 2020 – Present.

TIFO's mission is to assist mining and mineral processing communities to operate as safely as practicable while maintaining essential economic activities. The unprecedented demand for gold and strategic metals has prompted several major exploration and mineral development proposals in western states. TIFO's international mission includes assessing and responding to health and environmental impacts of polluting activities on sovereign native and tribal lands within the US. In that regard TIFO supports scientifically-sound and transparent analyses of the environmental and human health issues faced by mining communities, and the development of solutions implemented within local socio-economic and cultural capabilities. Proposed gold, antimony, and cobalt mining in Idaho, Nevada and Washington States have the potential to adversely affect several reservations and aboriginal tribal lands. The Idaho Stibnite Gold Mine proposal, that claims it will meet 33% of the US antimony demand, is of interest because both the industry and the US regulatory arena have the capacity to implement best practices that are not available to poor communities throughout the world. Mining advocates allege these developments will be safe and secure, and are projecting unprecedented control levels for toxic contaminants. Conversely, the mining company consultants are arguing for relief from environmental regulatory requirements in these mining-friendly states. However, citizen-based interest groups and tribal authorities have limited capacity and resources to evaluate the complex environmental assessments and permit applications. Ironically, the Stibnite Gold Project is exploiting the same ores and metallurgical processes as the gold/antimony mining TIFO is assessing in Kyrgyzstan. As there are currently no smelters in the US that can process the antimony concentrates, the Idaho ores are currently projected to be exported to the same Chinese smelters processing the Kyrgyz ores. Through TIFO, Dr. von Lindern is providing independent review of these documents and submitting comments to the review agencies.

Regulatory Knowledge

Ian von Lindern has worked on projects regulated under Federal, State, local, and foreign regulations, including CERCLA, TSCA, CWA, CAA, NESHAPs, DOT, EPCRA, SARA, NEPA, and RCRA in the U.S. He has provided litigation support and expert witness testimony in administrative and court proceedings. He has served on several U.S. government advisory panels, including the appointments pertinent to lead health and remediation as shown in the list below.

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Special Appointments/Memberships/Affiliations

- U.S. EPA Science Advisory Board. Peer Review. All Ages Lead Model (AALM). Washington, DC. October 16-20, 2019.
- U.S. EPA External Peer Review. Draft Report, Proposed Modeling Approaches for a Health Based Benchmark for Lead in Drinking Water. Prepared for: U.S. Environmental Protection Agency, Office of Water, Washington, DC. June 27-28, 2017.
- U.S. EPA External Peer Review. EPA's Approach for Estimating Exposures and Incremental Health Effects from Lead due to Renovation, Repair, and Painting Activities in Public and Commercial Buildings. Prepared for: U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC. January 2015.
- U.S. EPA Science Advisory Board (CASAC). Review of the Integrated Science Assessment (ISA) for Lead in the Ambient Air. US EPA, Washington, D.C. 2012-2013
- American University of Armenia, School of Public Health, Yerevan. Invited Professor, Graduate course Risk Assessment for Environmental Health Professionals for Master of Public Health (MPH) Students. 2012-present.
- U.S. Centers for Disease Control and the Harvard University School of Public Health Initiative to address health effects of mining and smelting in the developing world. 2009-2013.
- Affiliate Professor of Chemical Engineering, University of Idaho, Moscow, Idaho, 1981-2011
- U.S. EPA Science Advisory Board. Review of the Lead National Ambient Air Quality Standard for Lead. U.S. EPA, Washington, DC. 2006-2008.
- U.S. Clean Air Scientific Advisory Committee (CASAC). Review of the Air Quality Criteria Document for Lead. U.S. EPA, Washington, DC. 2010-2013, 2006-2007.
- U.S. EPA Science Advisory Board. Review of EPA's Lead Renovation, Repair and Painting (LRRP) Activities. U.S. EPA, Washington, DC. 2007.
- U.S. EPA Science Advisory Board. Review of EPA's Ad Hoc All-Ages Lead Model (AALM) Review Panel. U.S. EPA, Washington, DC. 2007.
- U.S. EPA Science Advisory Board. Review Subcommittee for Urban Soil Lead Abatement Demonstration Project. U.S. EPA, Washington, DC, 1993-1995.
- NIEHS Select Reviewer Grants Review Committee, Superfund/Hazardous Workers Training Program, NIEHS, RTP, NC. 1992.
- Advisory Committee for Development of Lead Paint Abatement Guidelines for Public Housing in the United States, U.S. Dept of HUD, Washington, D.C., 1992.
- U.S. EPA Science Advisory Board, Subcommittee Assessing the Consistency of Lead Health Regulations in U.S. EPA Programs, Special Report to the Administrator, Washington, D.C., 1992.
- U.S. EPA Science Advisory Board, Review Subcommittee Assessing the Use of the Biokinetic Model for Lead Absorption in Children at RCRA/CERCLA sites. U.S. EPA, Washington DC, 1991.
- Technical advisor and consultant to Latah County and North Central Health District Regional Solid Waste Advisory Committees, Moscow and Lewiston, ID. 1991.
- Technical advisor to the National Alliance to End Lead Poisoning in Children, Washington, D.C. 1991-2001
- NIEHS Select Reviewer Grants Review Committee, Superfund/Hazardous Workers Training Program, NIEHS, Research Triangle Park, NC, 1989-1993.
- U.S. EPA Clean Air Scientific Advisory Committee (CASAC) Member, Subcommittee on Exposure Assessment Methodology, U.S. EPA, Washington D.C. 1988.
- U.S. EPA Criteria Assessment Committee for Lead in the Ambient Air, RTP, NC. 1975-1986.

Additional Certifications/Training

PSMJ Conference for CEOs-2005

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Publications

- Tirima S, Bartrem C, von Lindern I, von Braun M, Lind D, Anka S, Abdullahi A. Food Contamination as a Pathway for Lead Exposure in Children During the 2010-2013 Lead Poisoning Epidemic in Zamfara, Nigeria. *Journal of Environmental Sciences*, 67:260-272, 2017.
- von Lindern I, Spalinger S, Stifelman M., Stanek LW, Bartrem C. Estimating Children's Soil/Dust Ingestion Rates through Retrospective Analyses of Blood Lead Biomonitoring from the Bunker Hill Superfund Site in Idaho. *Environ Health Perspect*; <https://doi.org/10.1289/ehp.1510144>, 2016.
- Tirima S, Bartrem C, von Lindern I, von Braun M, Lind D, Anka SM, Abdullahi A. Environmental Remediation to Address Childhood Lead Poisoning Epidemic due to Artisanal Gold Mining in Zamfara, Nigeria. *Environ Health Perspect*; <http://dx.doi.org/10.1289/ehp.1.510145>, 2016.
- Bartrem C, Tirima S, von Lindern I, von Braun M, Worrell MC, Mohammad Anka S, Abdullahi A, Moller G. Unknown risk: co-exposure to lead and other heavy metals among children living in small-scale mining communities in Zamfara State, Nigeria. *Int J Environ Health Res.* 24(4):304-19. <https://doi.org/10.1080/09603123.2013.835028>, 2013.
- Plumlee GS, Durant JT, Morman SA, Neri A, Wolf RE, Dooyema CA, Hageman PL, Lowers HA, Fernette GL, Meeker GP, Benzel WM, Driscoll RL, Berry CJ, Crock JG, Goldstein HL, Adams M, Bartrem CL, Tirima S, Behbod B, von Lindern I, Brown MJ. Linking Geological and Health Sciences to Assess Childhood Lead Poisoning from Artisanal Gold Mining in Nigeria. *Environ Health Perspect* 121:744–750; <http://dx.doi.org/10.1289/ehp.1206051>, 2013.
- Spalinger SM, von Braun MC, Petrosyan V., von Lindern IH. Northern Idaho House Dust and Soil Lead Levels Compared to the Bunker Hill Superfund Site. *Environ. Monit. Assess.* 130: 57-72, 2007.
- Petrosyan V, von Braun MC, Spalinger SM, von Lindern IH. Seasonal variations of lead concentration and loading rates in residential house dust in northern Idaho. *Journal of Hazardous Materials* 132: 68-79, 2006.
- von Lindern, IH, Spalinger, SM, Bero, BN, Petrosyan, V, von Braun, MC. The influence of soil remediation on lead in house dust, *Science of the Total Environment*, Vol. 303/1-2, 59-78, 2003.
- von Lindern, IH, Spalinger, SM, Petrosyan, V, von Braun, MC. Assessing remedial effectiveness through the blood lead: soil/dust lead relationship at the Bunker Hill Superfund Site in the Silver Valley of Idaho, *Science of the Total Environment*, Vol.303/1-2, 139-170, 2003.
- von Braun MC, von Lindern I, Khristoforova NK, Kachur AH, Yelpatyevsky, Elpatyevskaya PV, Spalinger SM. Environmental Lead Contamination in the Rudnaya-Pristan Dalnegorsk Mining and Smelter District, Russian Far East, *Environmental Research*, 88, 164-173, 2002.
- Bero B, von Braun MC, von Lindern IH, Hammel JE, Korus R. Evaluation of six vacuum techniques for sampling lead contaminated carpeted surfaces, *Advances in Environmental Research*, Vol. 1, No. 3, 333-344, 1998.
- von Braun, MC, von Lindern, IH, Martyn, S, Steward K. Use of a Geographic Information System in Selecting Residential Properties for Remediation at the Bunker Hill National Priorities List Site. *Proceedings of the 10th National Conference on Management of Uncontrolled Hazardous Waste Sites, Superfund*, Washington, D.C. November 1989.
- von Lindern, I, von Braun, MC. Reconstructive Analysis of Lead Exposures in a Smelter Community Using Geographic Information System Techniques. *Proceedings of Society for Occupational and Environmental Health Conference*, Washington D.C. April 1988.
- Walter SD, von Lindern, IH, Yankel AJ. Age-Specific Risk Factors for Lead Absorption in Children. *Archives of Environmental Health.* Vol. 35, no. 1. January/February 1980.
- Yankel, AJ, von Lindern, IH, Walter, SD. The Silver Valley Lead Study: The Relationship between Childhood Blood Lead Levels and Environmental Exposure, *Journal of the Air Pollution Control Association*, 27:8, 763-767, DOI: 10.1080/00022470.1977.10470488, 1977.

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Reports/Presentations

- Human Health Risk Assessment (HHRA) for Aidarken, Chauvay, and Surrounding Villages. Prepared for Kyrgyz Ministry of Health and Médecins Sans Frontières. 4 March 2021.
- Data Summary Report: Summary of Results from Field and Laboratory Activities from August-September 2019 Environmental Assessment in Aidarken and Chauvay, Kadamjay Rayon, Kyrgyz Republic. Prepared for Kyrgyz Ministry of Health and Médecins Sans Frontières. 13 November 2020.
- Mining, Climate Change, and Conflict: Lessons from Nigeria and Kyrgyzstan. Society for Mining, Metallurgy, and Exploration, Southern California Chapter (virtual). 12 November 2020.
- Local and regional impacts of primary mercury production on environmental health and security in Batken, Kyrgyzstan. Ramazzini Days Conference. Carpi, Italy (virtual). 24 October 2020.
- Review of Existing Information and Identification of Data Gaps for Conducting Human Health Risk Assessments (HHRA) and Biomonitoring for Heavy Metal Exposures – Khaidarken, Batken Province, Kyrgyz Republic. Prepared for Kyrgyz Ministry of Health and Médecins Sans Frontières. April 2019.
- Presenter: Achievement Awardee Luncheon Presentation – International disparities in childhood lead poisoning: following metal production to the world’s most vulnerable communities. Association for Environmental Health and Sciences Foundation. 29th Annual Conference on Water, Soils, Sediments, and Air. San Diego, CA, USA. 18-22 March 2019.
- Eight Years, Two States, Ten Villages, and Five Thousand Children: Adapting US Superfund Methodologies to Lead Remediation in Northern Nigeria. Association for Environmental Health and Sciences Foundation. 29th Annual Conference on Water, Soils, Sediments, and Air. San Diego, CA, USA. 18-22 March 2019.
- Presenter: Environmental Health and Risk Assessment: Workshop on MSF and Extractive Industries. Médecins sans Frontières, Geneva, Switzerland. 24-25 October 2018.
- Instructor, Assessment and Remediation of Heavy Metal Contamination, Workshop on Extractive Industries, Médecins sans Frontières, Geneva, Switzerland, October 2018.
- Presenter: Humanitarian Crisis in Pollution-Related Disease: MSF’s role, response models, and discussions on the path forward. Workshop for Médecins Sans Frontières. Geneva, Switzerland. 16-17 April 2018.
- Final Seismic Risk Addendum Report: Exposure Risks Related to Seismic Hazards and Risks in Batken, Kyrgyzstan. Prepared for Médecins sans Frontières. March 2019.
- Coordinated Environmental Health Response to a Severe Outbreak of Lead Poisoning. International Conference on Lead Poisoning. Abuja, Nigeria. 26-27 June 2018.
- Phase I & II Ungwar Magiro and Ungwar Kawo Emergency Remediation: A Summary of the Scope of Work Accomplished. Prepared for the Nigeria Federal Ministry of Environment. May 2017.
- Developing and Implementing Institutional Controls Programs to Achieve Long-Term Sustainability of Interventions and Prevent Future Outbreaks. International Conference on Lead Poisoning. Abuja, Nigeria. 26-27 June 2018.
- Humanitarian Crisis in Pollution-Related Disease: MSF’s role, response models, and discussions on the path forward. Workshop for Médecins Sans Frontières. Geneva, Switzerland. 16-17 April 2018.
- Updated Human Health Risk Assessment: Batken Province, Kyrgyz Republic. Prepared for Médecins Sans Frontières. August 2017.
- Human Health Risk Assessment, Batken Province, Kyrgyz Republic. Prepared for Médecins Sans Frontières. July 2016.
- Encephalopathy, Death, or IQ: Disparity in Environmental Remediation Response Criteria for Childhood Lead Poisoning in Low- and middle-Income Countries. 23rd Sewell Distinguished Lecture in Environmental Health Sciences Recipient. Columbia University Mailman School of Public Health. New York, NY. April 2016.
- The need to address public health crises in low income countries due to global shifts in production. The Path of Least Resistance Leads to Poisoned Communities, European Public Health Conference, Milan, Italy. October 2015.

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- Escalating community metals poisoning due to changes in the global economy. Living in a Chemical World Session III, Proceedings of Ramazzini Days Conference. Carpi, Italy. October 2015.
- Lessons Learned in Environmental Regulation and Remediation, Environmental Health in Mining Communities, Proceedings of the Conference on Occupational and Environmental Health in Construction and Mining. Ulaanbaatar, Mongolia. June 2015.
- Remediating Polluted Worksites in Developing Countries. Safety and Health Awareness Training to Improve working Conditions in the Garment, Tannery and Construction Industries of Bangladesh, Dhaka, Bangladesh. Hosted by Dhaka Community Hospital, Harvard School of Public Health, Collegium Ramazzini. February 2014.
- Integrated Remediation and Health Response to Artisanal Mining Lead Poisoning Epidemic in Zamfara, Nigeria. Conference of the International Medical Geology Association. 25 August 2013.
- International Conference on Lead Poisoning: Special Focus on the Zamfara Crisis. Hosted by Centers for Disease Control and Prevention Nigeria, Nigeria Federal Ministry of Health, Médecins Sans Frontières. Abuja, Nigeria. 10 May 2012.
- Artisanal Mining Lead Poisoning Epidemic, Zamfara State, Nigeria, 2010-11, Phase I and II Emergency Response Cleanup. Prepared for: Médecins Sans Frontières. Prepared by: TerraGraphics Environmental Engineering. October 2011.
- Health Response to the World's Worst Lead Poisoning Epidemic - Zamfara, Nigeria 2010-11 prepared for the Zamfara Ministry of Environment, Gusau, Nigeria. October 2011.
- The Life Cycle of Metals: Improving Health, Environment and Human Security, Symposium. University of Tokyo and Harvard University. Tokyo, Japan. October 2011.
- Cleanup Recommendations for Bagega Village, Zamfara State, Nigeria, 2010-2011. Prepared for: Médecins Sans Frontières (MSF). Prepared by: TerraGraphics Environmental Engineering. October 2011.
- Artisanal Mining Lead Poisoning Epidemic, Zamfara State, Nigeria, 2010-2011. Assessment of Remedial Effectiveness - Phase I and II Emergency Response Cleanup Summary Report Prepared for: Médecins Sans Frontières. Prepared by: TerraGraphics Environmental Engineering. August 2011.
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