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Arizona | Regional and national engagements

Scientific Insight for Complex Environmental Challenges

Defensible environmental analysis | Toxicological interpretation | Regulatory advisory

FIRM OVERVIEW

AXIS Environmental Intelligence Group, LLC is an independent scientific advisory firm specializing in the interpretation of complex environmental, toxicological, exposure, and regulatory evidence, with particular depth in PFAS and other contaminants of emerging concern. AXIS EIG supports law firms, public agencies, Tribal governments, municipalities, public water systems, consulting and contracting organizations, research institutions, and environmental and public-health stakeholders through technically rigorous analysis, compilation and integration of complex datasets, scientific visualization, independent scientific review, expert-report evaluation, and clear communication of decision-relevant findings. By integrating environmental toxicology, analytical chemistry, exposure science, data analysis, and regulatory context, AXIS EIG helps clients clarify uncertainty, identify evidentiary strengths and limitations, and translate complex scientific information into defensible conclusions and decision-ready visual and narrative products for litigation, policy, public-health, and environmental decision-making.

CORE SCIENTIFIC & ADVISORY CAPABILITIES

Toxicology, Exposure & Sampling Review

Interpret toxicological, biomonitoring, and environmental-monitoring data; review exposure assumptions and sampling plans; and clarify evidentiary support, remaining uncertainty, and relationships among multiple evidence streams.

Technical Evidence Synthesis & Scientific Reporting

Compile and reconcile scientific literature, regulatory authorities, technical records, analytical results, and competing scientific interpretations into structured analyses and defensible written products.

Regulatory & Environmental Health Interpretation

Evaluate regulatory values, health-based benchmarks, agency guidance, and risk frameworks, with careful attention to their intended uses, scientific foundations, limitations, and decision implications.

Expert Rebuttal & Technical Review

Critically evaluate expert reports, analytical methods, assumptions, authority use, and inferential dependencies to identify scientific strengths, vulnerabilities, omissions, and unsupported conclusions.

Environmental Data Analysis & Scientific Visualization

Compile, standardize, analyze, and visualize environmental, biomonitoring, and health datasets to clarify patterns, comparisons, uncertainty, and decision-relevant relationships.

Research Design & Analytical Method Development Support

Support study design, analytical-method and validation review, laboratory workflow evaluation, and preparation of scientific manuscripts, technical reports, proposals, and grant-funded environmental or public-health projects.

TECHNICAL AREAS OF FOCUS

PFAS & Emerging Contaminants	**Analytical Chemistry & Method Evaluation**	**Exposure & Biomonitoring Interpretation**	**Environmental Toxicology**
Environmental Data Integration & Visualization	**Regulatory Science & Health-Based Benchmarks**	**Expert-Report Review & Scientific Rebuttal**	**Public-Health & Risk Communication**

SELECTED SCIENTIFIC & ADVISORY EXPERIENCE

PFAS Toxicology & Regulatory Evidence

Synthesized toxicity assessments, health-based benchmarks, biomonitoring evidence, exposure information, and scientific literature to evaluate environmental and health-related claims involving PFAS.

Environmental Data Integration & Visualization

Compiled and harmonized environmental sampling, biomonitoring, health, and regulatory datasets and developed comparative tables, figures, and decision-focused visual summaries.

Expert Report Evaluation & Rebuttal

Performed structured claim inventories, authority reviews, dependency mapping, vulnerability assessments, and expert-specific scientific rebuttal development for complex environmental matters.

Deposition & Cross-Examination Support

Converted technical findings into source-anchored examination sequences, targeted admissions, denial and evasion branches, scientific stop points, and plain-language explanations for counsel.

Environmental & Public-Health Communication

Prepared technical reports, public-forum testimony, evidence summaries, and audience-specific explanations of environmental exposure, analytical uncertainty, health benchmarks, and risk.

Regulatory & Policy Scientific Advisory

Interpreted regulatory frameworks, scientific guidance, emerging evidence, and areas of uncertainty to support environmental, public-health, policy, and strategic decision-making.

Technical Subcontracting & Project Support

Provided senior scientific review, technical writing, literature evaluation, proposal support, and specialized analytical and toxicological expertise within multidisciplinary consulting and advisory teams.

Research Design & Scientific Publication Support

Designed environmental and toxicological studies, developed and validated analytical methods, evaluated laboratory and validation approaches, and prepared manuscripts and technical reports for scientific audiences.

FOUNDER & LEAD SCIENTIST

DUAL MAJOR B.S. FROM CENTRAL MICHIGAN UNIVERSITY: BIOCHEMISTRY & NATURAL RESOURCES BIOLOGY

PH.D. FROM TEXAS TECH UNIVERSITY: ENVIRONMENTAL TOXICOLOGY – ANALYTICAL – CLINICAL CHARACTERIZATION OF PFAS TOXICITY

NIEHS POSTDOCTORAL FELLOWSHIP AT THE UNIVERSITY OF CALIFORNIA, RIVERSIDE – EPA-FUNDED BIOSOLIDS USE & FOOD CROP SECURITY PROJECT

Dr. Nicole M. Dennis

Dr. Nicole M. Dennis is the Founder and Lead Scientist of AXIS Environmental Intelligence Group. She is an environmental analytical chemist and toxicologist with doctoral training in environmental toxicology and postdoctoral expertise spanning PFAS, contaminants of emerging concern, exposure science, mixtures toxicology, biomonitoring, and mass-spectrometry method development. Her work integrates scientific literature, analytical data, regulatory frameworks, and technical records to clarify what complex evidence can—and cannot—support. Dr. Dennis has led interdisciplinary research and advisory efforts, developed and validated UPLC-MS/MS methods, prepared scientific analyses for litigation, policy, and public-health contexts, and serves on the U.S. Environmental Protection Agency Science Advisory Board.

AXIS DIFFERENTIATORS

Interdisciplinary Scientific Integration

Integrates toxicology, analytical chemistry, exposure science, data analysis, and regulatory interpretation so that related evidence streams are evaluated together rather than in isolation.

Defensible Scientific Interpretation

Makes assumptions, analytical boundaries, uncertainty, and evidence strength explicit, reducing overstatement while preserving the conclusions the available science can support.

Litigation-Regulatory Crossover

Develops technically rigorous work products suited to legal scrutiny while remaining grounded in the proper scope of regulatory values, scientific guidance, and environmental-health practice.

Decision-Ready Environmental Intelligence

Converts fragmented scientific records and complex datasets into clear visual, narrative, and strategic products tailored to the client's question, audience, and decision context.

REQUEST SCIENTIFIC ADVISORY SUPPORT

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