

Environmental Neuroscience: Advancing the Understanding of How Chemical Exposures Impact Brain Health and Disease—A Virtual Workshop

Session I: What are the neurotoxins?

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Opening Remarks

- Unequivocal science: health outcomes are shaped by genes and the Environment
- Critical to understand environmental influence on neurological outcomes
 - Improving public health necessitates much greater emphasis on understanding how environmental factors shape neurological outcomes
- A number of neurotoxicants have been identified, but we suffer from a dearth of toxicity and exposure data for tens of thousands of chemicals
 - Opportunity for new tools (e.g., predictive toxicology, exposomics) to complement more conventional methods
- Advancing the science requires a “meet in the middle” approach:
 - Evaluate chemicals against known neurobiological targets
 - Ensure current understanding of etiology and pathology of neurological conditions are reflected in chemical evaluation methods
 - Identify potential differential exposure patterns across different neurological outcomes
- Environment is complex and need to account for interplay between chemical and non-chemical stressors
 - Requires new frameworks for evaluating environmental risks and integrating multiple lines of evidence