The ECHO Opportunities and Innovation Fund (OIF)

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Presentation Outline

I. OIF History and Goals

II. OIF Accomplishments

A. OIF science and contributions

B. Impact on career development

C. OIF Development Series

III. OIF Looking Ahead

OIF History and Goals

- Since the OIF started in 2016, there have been **8** rounds of OIF awards to Early Career Investigators, with **2** more rounds anticipated in 2026 and 2027
  - **51** awards in ECHO 1; **23** in ECHO 2

- Guided by ECHO Scientific Focus Areas, OIF's 2-year, $200,000 awards support innovative research that adds new knowledge, tools, and technologies of high significance to our ECHO Cohort Consortium

- The OIF program aims to foster career development and promote collaboration within ECHO

OIF Innovations

Scientific Contributions

- OIF research results
- Scholarly productivity
  - Publications
  - New grants

Career Development

- Continued involvement in ECHO
  - Leadership opportunities
- Career advancement

Exposure-outcome Models and Geospatial Science

Topics Addressed	Specific Examples	Importance/Significance
Classic Exposure Outcome Analysis	Exposures: • PFAS • Air pollutants • Temperature • Chemicals • Wildfire smoke *Outcomes:* • *Preterm birth* • *Obesity, growth* • *Pubertal development* • *Neurodevelopment*	• Provide evidence to inform prevention, mitigation • Generate new hypotheses about potential mechanisms
Linking of external geospatial to ECHO participants	• High resolution geomarkers • PM 2.5 & other air pollutants • Greenspace (Google) • Temperature • Chemicals • Wildfire smoke • Economic factors (Economic Opportunity Index) • Sociodemographic (neighborhood vulnerability)	Enhance characterization of the environment: spatial

Research in Action: Geospatial Science

Innovative Methods and New Technologies

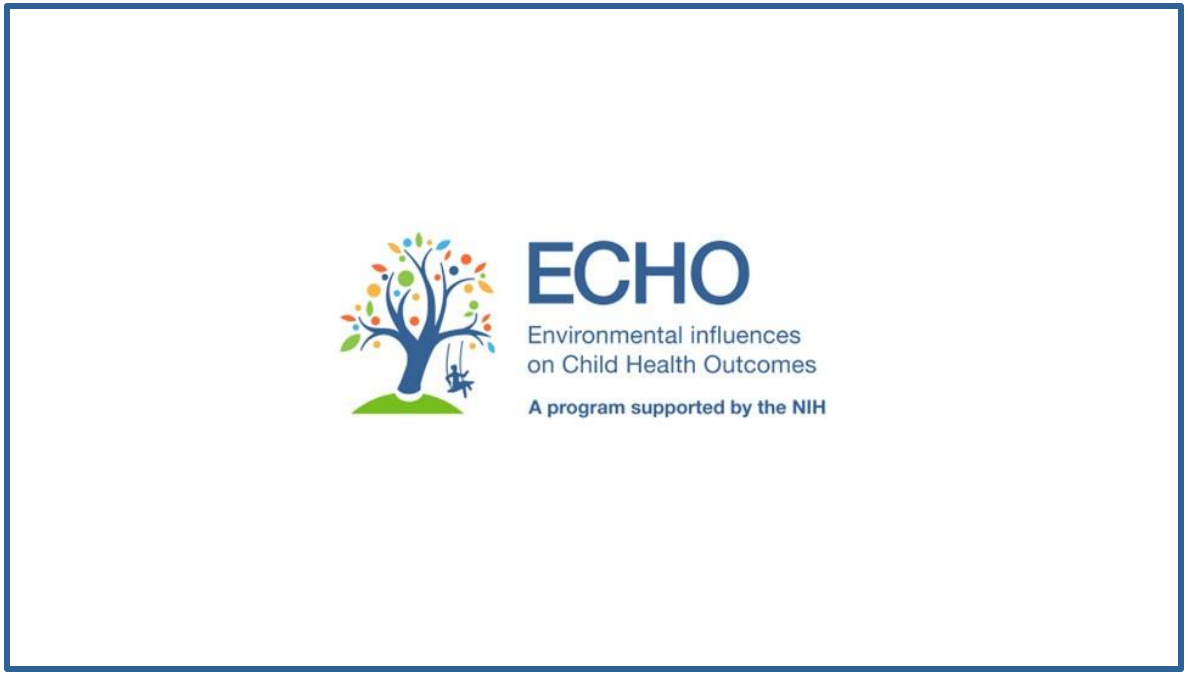
Topics Addressed	Specific Examples	Importance/Significance
Innovative or more efficient methods to characterize outcomes	• Neurodevelopment ▪ Eye tracking ▪ Non-nutrition sucking ▪ Shortened SRS ▪ Remote assessment of cognition • Biomarkers: ▪ Remote collection of DBS	• Provide for more specific and refined insights about exposure-outcome associations • Reduce participant burden
Innovative methods to characterize exposures	• Silicon wristbands • Wearable monitors for air pollution exposure • Diet assessment using photos • Placental methylation as biomarker for smoking	Reduce measurement error and bias

Research in Action: New Technologies

Mechanisms/Genetics and Multiple Exposures

Topics Addressed	Specific Examples	Importance/Significance
Mechanistic insights	• Metabolomics • Genetics • Oxidative stress • Epigenetics • Role of the placenta	Important improved tools for future ECHO analyses
Modeling and understanding multiple exposures	• Chemical mixtures • Neighborhood + household factors • Social + biological determinants	• More realistic characterization of the exposome • Synergistic and mitigating effects

Research in Action: Multiple Exposures



Innovative Statistics and Return of Results

Topics Addressed	Specific Examples	Importance/Significance
Innovative statistical methods	• Causal inference from observational data • Missing data and imputation • Pooled analysis • Scoring methods • Trajectories • Creating an ECHO-wide sibling cohort	Important improved tools for future ECHO analyses
Return of research results to participants	• Development of report-back tools • Use of smart phones • Qualitative research to inform content and mode of delivery	Fulfills ethical obligation to participants, improvement of retention, effects on parent follow-up for adverse child outcomes

Research in Action: Return of Results

Productivity of OIF Recipients: Publications*

- **59** manuscripts accepted for publication
- **12** manuscripts submitted to a Publications Committee and/or to a Journal
  - High profile environmental exposure and child health-focused journals
  - JAMA Pediatrics
- **38** manuscripts in preparation
- **16** presentations/posters/abstracts accepted or presented since 2025

* Data from ECHO Manuscript Tracker (accessed April 20, 2026)

OIF Cycle 1 Accomplishments: Career Advancement

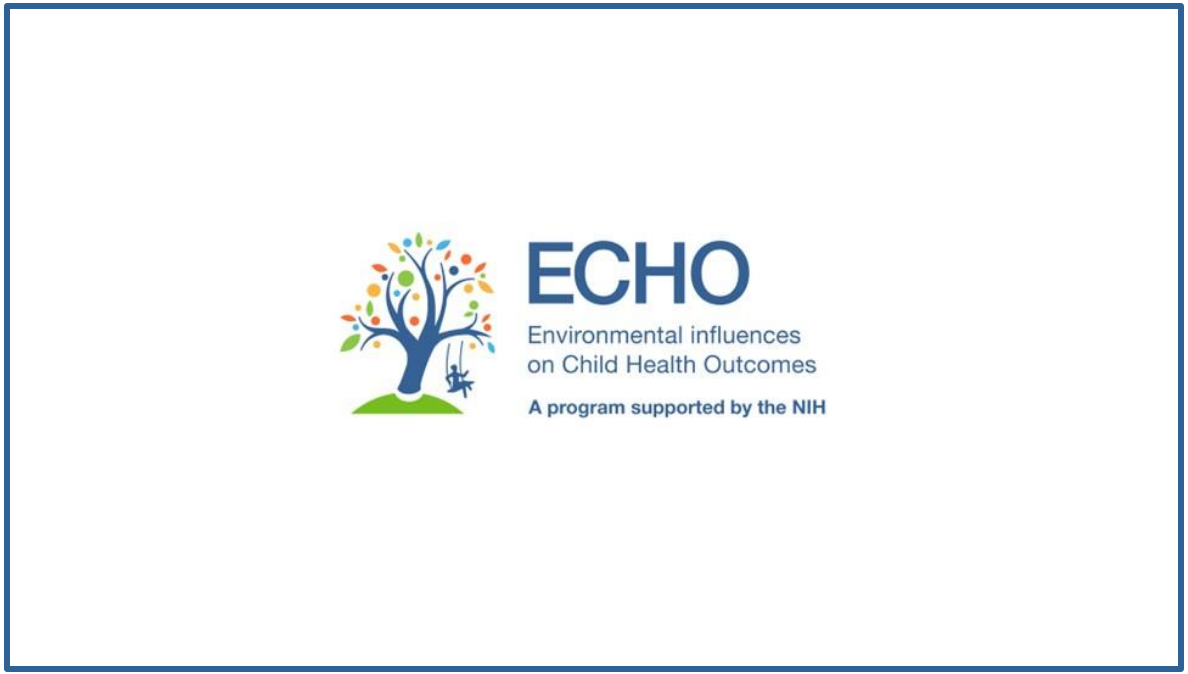
- Of 51 OIF Cycle 1 investigators, **50** work in academic institutions
  - **22** are **Assistant Professors** at U.S. universities
  - **29** are **Associate Professors**; 2 of these are **Department Chairs**
- Other career advancements of Cycle 1 investigators
  - **7** Program Directors
  - **1** Principal Data Scientist
  - **1** Senior Research Analyst
  - **1** Senior Health Department Epidemiologist

OIF Accomplishments: Grants and Career Advancement since April 2018*

- **31** OIF investigators **promoted** since start of OIF grant
  - Many OIF investigators stayed in our ECHO Community
    - 4 Cycle 1 OIF investigators are MPIs on ECHO Cycle 2 grants Congratulations to: **Kristen Lyall, Jennifer Straughen, Traci Bekelman, Akhgar Ghassabian**
    - Other roles within ECHO: Co-Investigators, Working Group co-chairs, Steering Committee member
- **47*** awardees received a total of **84 new grants** including NIH K99, K01, R01 awards, University-based awards, and Foundation awards

* Data from Abacus Evaluation Report, August 2025 and ECHO Cycle 2 Awardee Progress Reports

OIF Career Testimonials



OIF Investigator Development Series

Goal: Foster peer learning, collaboration, and development

Current and Future Topics:

- Works in Progress
  (presentations by awardees to discuss ongoing research)
- Informational sessions on resources and ECHO OIF support services
  (e.g., ECHO Publications Committee process, DAC Sessions)
- Development sessions (e.g., NIH Career Development (K) Awards, Communicating our ECHO science to lay audiences)
- Half-day session at the ECHO F2F meeting in April 2026
  - Dr. Matt Gillman, Director, NIH ECHO Program Office
  - Dr. Marie Lynn Miranda, Chancellor, University of Illinois Chicago
    - Successful Collaborations
    - 10 Habits of Relatively Sane Working Parents

OIF Round 4 Research Focus

- Applications should propose research focused on the scientific priorities defined and endorsed by the ECHO Steering Committee.
- In addition, the NIH ECHO Program Office encourages applications that:
  - Employ novel methodologies in artificial intelligence (AI) or machine learning.
  - Utilize the newly released ECHO Cycle 1 genetic and/or epigenetic data.

- NOT permitted in Round 4 are proposals involving the following:
  - Science of Operations.
  - Collection of new or additional data or biospecimens.

OIF Round 4: Milestones

Milestone	Date
Request for Applications (RFA) Release	June 1, 2026
Informational Webinar	June 4, 2026
Deadline for Award Contact PI to inform CC of designated applicant	**June 29, 2026**
LOIs Due	**July 17, 2026**
Center/Core Consultation Period	July 29-August 24, 2026
Applications Due	**September 22, 2026**
Review Committee Meetings	Early February 2027
Funding Decisions	May 2027
Project Start Date	June 1, 2027

Thanks to the Outstanding OIF Team!

Elena Soler
Overall OIF Project Leader (PL)

Amy Brightwood
Post-Award Oversight PL

Colleen Canavan
Solicitation, Review, and Award (SRA) Oversight PL

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ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH