

ATS Highlights 2026:

Environmental, Occupational, and Population Health Assembly Early Career Professionals



Javier Perez-Garcia, PhD

Postdoctoral Scholar

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Tell us about yourself.

I am a pharmacist with a PhD in Health Sciences, and a postdoctoral scholar working in molecular epidemiology of respiratory diseases.

Is your research clinical, basic science, or translational?

I conduct basic science research with a translational focus.

Tell us about your research.

My research focuses on identifying biomarkers of respiratory diseases, drug response, and environmental exposures through multi-omic integration, including genomics, epigenomics, and microbiome studies.

Where do you see yourself in 5 years?

I aim to lead a research group and collaborate with other researchers to support the development of new therapeutic strategies and advance precision medicine for respiratory and allergic diseases.

How has the EOPH assembly contributed to your career?

I am deeply grateful to the EOPH Assembly for supporting my career and connecting me with outstanding researchers. I was honored to receive the 2025 David Bates Award, given to promising researchers in EOPH, and two scholarships that supported my participation in ATS conferences.



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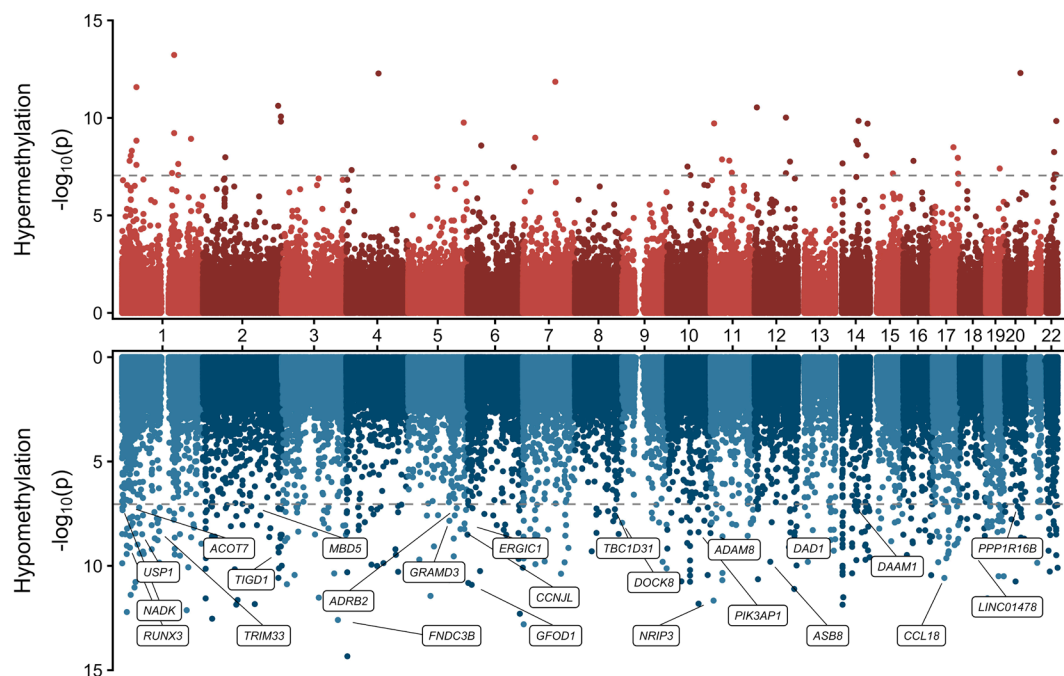
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Miami plot of the meta-EWAS of asthma with exacerbations

Multi-Ancestry Meta-EWAS Identifies Novel Associations of Epigenetic Markers with Asthma with Severe Exacerbations

Rationale: Although extreme phenotypes comparisons have revealed new asthma risk genetic loci, this approach is unexplored in epigenome-wide association studies (EWAS).

Methods: We conducted a meta-EWAS comparing controls and asthma exacerbators in 2,745 genetically diverse subjects in a discovery and replication design. We analyzed DNA methylation (DNAm) predictors of plasma protein levels and aging.

Results: We identified 505 CpGs in whole blood associated with asthma and exacerbations ($p < 9 \times 10^{-8}$). We replicated 29 CpGs, of which 8 CpGs were validated in nasal epithelia. We detected 21 plasma proteins and one lung aging clock associated with asthma and exacerbations. These markers are involved in airway inflammation and remodeling, immunity, and host defense.

Conclusions: We provided novel insights into potential biomarkers and therapeutic targets for asthma and exacerbations.



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