

The New HEI Traffic and Health Studies

Hanna Boogaard, *Health Effects Institute*

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Overall Objective RFA 17-1

Fund studies that would consider spatially correlated factors that may either confound or modify the health effects of traffic-related air pollution, most notably, traffic noise, socioeconomic status (SES), and factors related to the built environment, such as presence of green space.



RFA 17-1

Assessing Adverse Health Effects of Exposure to Traffic-related Air Pollution, Noise, and their Interactions with Socio-Economic Status

- Held a workshop to develop and refine research questions around health effects of traffic-related air pollution – May 2016
- Developed and issued Request for Applications (RFA) 17-1 – June 2016 to January 2017
- Received 51 Preliminary Applications – March 2017
- Requested and received 11 full applications – July 2017
- Funded three applications – October 2017



Principal Investigators

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Meredith Franklin

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Ole Raaschou-Nielsen

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Teams

Payam Dadvand and Jordi Sunyer

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Maria Dolores Gómez-Roig, Edurne Mazarico (BCNatal)

Jose Lao (Barcelona Regional)

Xavier Querol, Teresa Moreno (Institute of Environmental Assessment and Water Research [CSIC-IDAEA]);

Michael Jerrett, Joel Schwartz, Tim Nawrot (advisory board)

Meredith Franklin

Scott Fruin, Rob McConnell, Robert Urmann, Steve Howland (USC)

Martin Shafer (Wisconsin State Laboratory of Hygiene)

Ole Raaschou-Nielsen

Mette Sørensen, Ulla Hvidtfeldt, Nick Martinussen (DCRC)

Matthias Ketzel, Jørgen Brandt, Ulas Im, Ole Hertel, Jesper Christensen (Aarhus University)

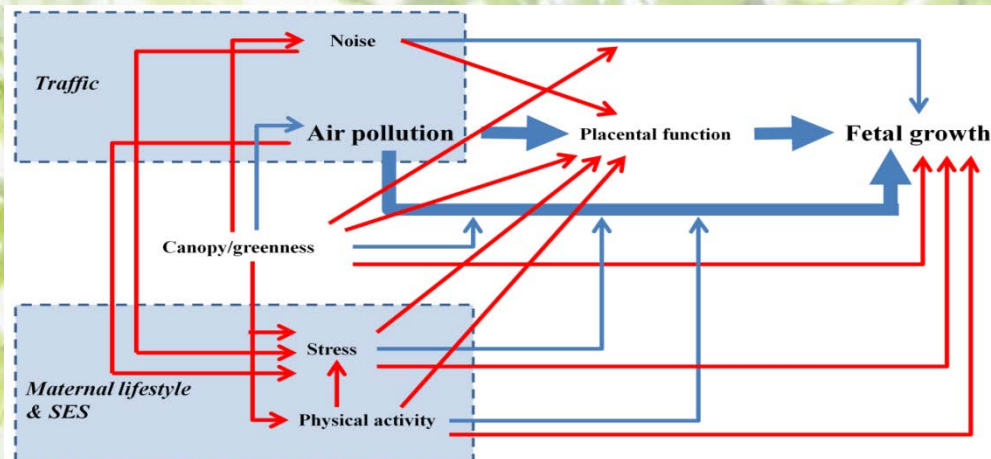
Theis Lange, Henrik Brønnum-Hansen (Copenhagen University)

Thomas Münzel (Johannes Gutenberg University)



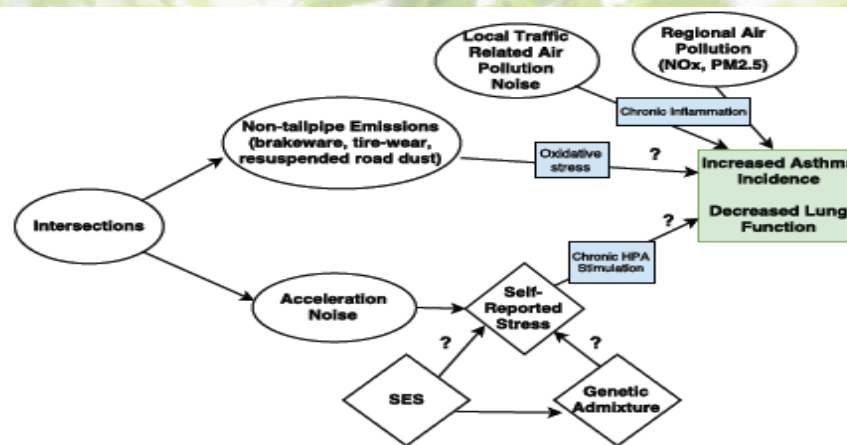
Dadvand - Sunyer study

- A new cohort of healthy pregnant women in Barcelona, Spain (N=1200).
- They will assess birth weight, fetal growth trajectories, and placental function for each pregnancy.
- Exposure models at very fine spatial resolution, noise, time-activity data, and personal exposure measurements.



Franklin study

- They will build on the Children's Health Study (CHS) in Southern California (N~5000).
- They have longitudinal data on asthma and lung function.
- They will develop an exposure model for non-tailpipe PM metals using compositional data from existing PM filters and data on intersections and road slopes.



Raaschou-Nielsen study

- They will make use of three existing cohorts in Denmark including an administrative cohort (N=5.5 million) and the Diet Cancer & Health next generation cohort (N=50,000).
- They will assess myocardial infarction, stroke and diabetes; cardiovascular biomarkers in the Next Gen cohort.
- Exposure models at fine spatial resolution, inclusion of UFP and non-tailpipe particulate matter, noise.



**Check out their
posters this
afternoon!!!**