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Environmental Sciences and Engineering

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12:20 - 1:10 p.m.

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Badin, North Carolina is the site of one of the nation’s first aluminum smelting facilities, operated by Alcoa 1917-2007. Residences and jobs were racially segregated, and the plant and its dumping sites are in West Badin, the Black side of town. The Concerned Citizens of West Badin formed in 2013 to advocate for remediation of contamination in their community. Since then, they have voiced concerns that the worst jobs in the plant were most frequently assigned to Black workers. This talk reflects on collaborative work addressing the possibilities and limits of occupational epidemiology in supporting struggles for environmental justice. I argue that in contrast with the radical origins of epidemiology, published literature on aluminium smelting reveals how epidemiology functions as a white methodology in collusion with racial capitalism. The published occupational epidemiology literature on aluminum smelting does not reflect concerns voiced by our community collaborators regarding the extent of harm caused by occupational exposure to toxins, nor does it include analyses of race or gender disparities due to discriminate labor divisions. I will discuss a collaborative project developed in response to residents’ questions about disparate health outcomes of toxic exposures in the workplace and briefly outline two quantitative analyses our team developed. Finally, I will discuss a critical evaluation of race-based clinical metrics in traditional occupational epidemiologic methods inspired by work in Badin. Workers’ compensation for respiratory injury is determined by comparing raw lung output to race-specific, algorithmically predicted capacities. By estimating compensation using race-corrected and uncorrected algorithms, we found that race-based clinical metrics result in Black workers being under compensated for lung impairment related to work exposures. This research serves as a starting point to addressing concerns about disparities in this group of former aluminum smelting workers. It may inform interventions to make departments equitably safe for workers.

Learning objectives are:

- Illustrate an example of a collaborative, community engaged epidemiologic research project
- Introduce the concept of racial capitalism
- Interrogate use of race-based clinical metrics in traditional occupational epidemiologic methods