A short post, with only 2 papers. The first one is about microbes detected in the homes of a French cohort of children, and the second one looked at the bacteria growing on plastic garbage found on the bottom of the North Sea. Here is your song to go with it: Miranda Lambert – The House That Built Me.

Microbiological characterization of 3193 French dwellings of Elfe cohort children — S. Rocchi — Science of The Total Environment

Although exposure to indoor microorganisms in early life has already been associated with respiratory illness or allergy protection, only a few studies have performed standardized samplings and specific microbial analysis. Moreover, most do not target the different groups of microorganisms involved in respiratory diseases (fungi, bacteria, dust mites). In our study, ten specific qPCR targets (6 fungal species, 1 family and 2 genera of bacteria, 1 house dust mite) were used to analyze the microorganism composition of electrostatic dust fall collector (EDC) from 3193 dwellings of the Elfe French cohort study. Multivariate analyses allowed us to show that the microbial composition of dwellings, assessed with simultaneous analysis of 10 microorganisms, can be characterized by four entities: three bacteria, house dust mite Dermatophagoïdes pteronyssinus, fungi Alternaria alternata, and five other molds. Some dwellings’ intrinsic characteristics (occupational ratio, type of dwelling and presence of pets) clearly influence microorganism distribution, and six different profiles of dwellings, characterized by their composition in microorganisms, have been described across France. The use of these clusters seems promising in the evaluation of allergic risk. Allergic respiratory diseases will develop in the near future in some children of the Elfe cohort and will indicate to what extent our approach can be predictive of respiratory disease.

Bacterial community profiling of plastic litter in the Belgian part of the North Sea—Caroline A. De Tender – Environmental Science & Technology
Bacterial colonization of marine plastic litter (MPL) is known for over four decades. Still, only a few studies on the plastic colonization process and its influencing factors are reported. In this study, seafloor MPL was sampled at different locations across the Belgian part of the North Sea to study bacterial community structure using 16S metabarcoding (note EB: I don’t like this term! And “16S”. Ugh). These marine plastic bacterial communities were compared with those of sediment and seawater, and resin pellets sampled on the beach, to investigate the origin and uniqueness of plastic bacterial communities. Plastics display great variation of bacterial community composition, while each showed significant differences from those of sediment and seawater, indicating that plastics represent a distinct environmental niche. Various environmental factors correlate with the diversity of MPL bacterial composition across plastics. In addition, intrinsic plastic-related factors such as pigment content may contribute to the differences in bacterial colonization. Furthermore, the differential abundance of known primary and secondary colonizers across the various plastics may indicate different stages of bacterial colonization, and may confound comparisons of free-floating plastics. Our studies provide insights in the factors that shape plastic bacterial colonization and shed light on the possible role of plastic as transport vehicle for bacteria through the aquatic environment.