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A stroll with eLISA through the mHz gravitational-wave zoo

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No great scientific endeavor has been without setbacks, and space-based gravitational wave (GW) astronomy has seen its fair share. Despite programmatic challenges, the science-case for a gravitational wave observatory operating in the mHz regime has never been stronger. Improvements in both theoretical understanding of the sources, and advancements in techniques for extracting signals from the data, have allowed the anticipated science impact of a space borne detector to survive imposed reductions in mission scope. I will lay out the case for the GW sources which we predict will play a starring role in the eLISA/NGO source catalog, and highlight how inferences made from these systems will help answer pressing questions in both physics and astronomy.