ABSTRACT: A Lie pseudoalgebra is a Lie algebra in a certain “pseudo-tensor” category. For any Lie algebra $\mathcal{d}$ of dimension $N$, one can construct a Lie pseudoalgebra $W(\mathcal{d})$, which is closely related to the Lie–Cartan algebra $W_N$ of vector fields. Our main result is the classification of all irreducible finite $W(\mathcal{d})$-modules. (Based on a joint work with A. D’Andrea and V. G. Kac.)