Abstract. We compare the growth of functions in the Dirichlet space to that of the functions in Hardy and Bergman spaces. First, we discuss the Chang-Marshall inequality of Trudinger type, its consequences, and a new proof of its weak form obtained jointly with M. Pavlović.

In the rest of the talk, we use geometric constructions to show that the “little-oh” estimate of Cowling on the order of growth of Dirichlet functions is optimal in a strong way, different from the one considered by Yamashita. We also characterize all nonlinear superposition operators that act from the Dirichlet space into a Hardy or a Bergman space, or are bounded between these spaces, in terms of order and type of their symbols. This continues the line of research started in our recent joint paper with Buckley and Fernández.

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