Recent results on a class of univalent functions

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Let $\mathcal{A}$ denote the family of all analytic functions in the unit disk $\mathbb{D} := \{z \in \mathbb{C} : |z| < 1\}$ with the normalization $f(0) = 0 = f'(0) - 1$. Let $\mathcal{U}$ denote the set of all $f \in \mathcal{A}$ in $\mathbb{D}$ satisfying the condition

$$\left| \left(\frac{z}{f(z)} \right)^2 f'(z) - 1 \right| < 1 \text{ for } z \in \mathbb{D}.$$

It is well-known that $\mathcal{U}$ belongs to the class of univalent functions in $\mathbb{D}$. In this lecture we give some recent results concerning the class $\mathcal{U}$ given by the author and his cooperators.