1172-42-28 **Itamar Oliveira*** (is355@cornell.edu), Malott Hall, 301 Tower Rd, Ithaca, NY 14853, and **Camil Muscalu**. *The Fourier Extension problem through a new perspective.* Preliminary report.

An equivalent formulation of the Fourier Extension (F.E.) conjecture for a compact piece of the paraboloid states that the F.E. operator maps $L^{2+\frac{2}{d}}([0,1]^d)$ to $L^{2+\frac{2}{d}+\varepsilon}(\mathbb{R}^{d+1})$ for every $\varepsilon > 0$. It has been fully solved only for $d = 1$ and there are many partial results in higher dimensions regarding the range of (p, q) for which $L^p([0,1]^d)$ is mapped to $L^q(\mathbb{R}^{d+1})$. In this talk, we will take an alternative route to this problem: one can reduce matters to proving that a model operator satisfies the same mapping properties, and we will show that the conjecture holds in higher dimensions for tensor functions, meaning for all g of the form $g(x_1, \ldots, x_d) = g_1(x_1) \cdot \ldots \cdot g_d(x_d)$. Time permitting, we will also address multilinear versions of the statement above and get similar results, in which we will need only one of the many functions involved in each problem to be of such kind to obtain the desired conjectured bounds. (Received August 06, 2021)