1147-28-784 **Annina Iseli*** (`annina.iseli@math.ucla.edu`). *Dimension and projections in normed spaces.*

In 1954, Marstrand established a theorem that describes to what extent the Hausdorff dimension of Borel sets in Euclidean two-space changes under orthogonal projections onto lines. Namely, he proved that given a Borel set A the dimension of the image of A under the orthogonal projection onto a line L equals the smaller of 1 and $\dim(A)$, for almost every line L that contains the origin. This theorem marked the start of a large series of results in the same spirit. In particular, there are Marstrand-type theorems for higher dimensional Euclidean space. In this talk we address the existence of Marstrand-type results for closest-point projections onto linear subspaces in finite dimensional normed spaces. In particular, we are interested in the minimal regularity required for a norm to guarantee such theorems. As it turns out, this is closely related to the study of the structure of the set of exceptional projection directions for orthogonal projections in Euclidean space. (Received January 28, 2019)