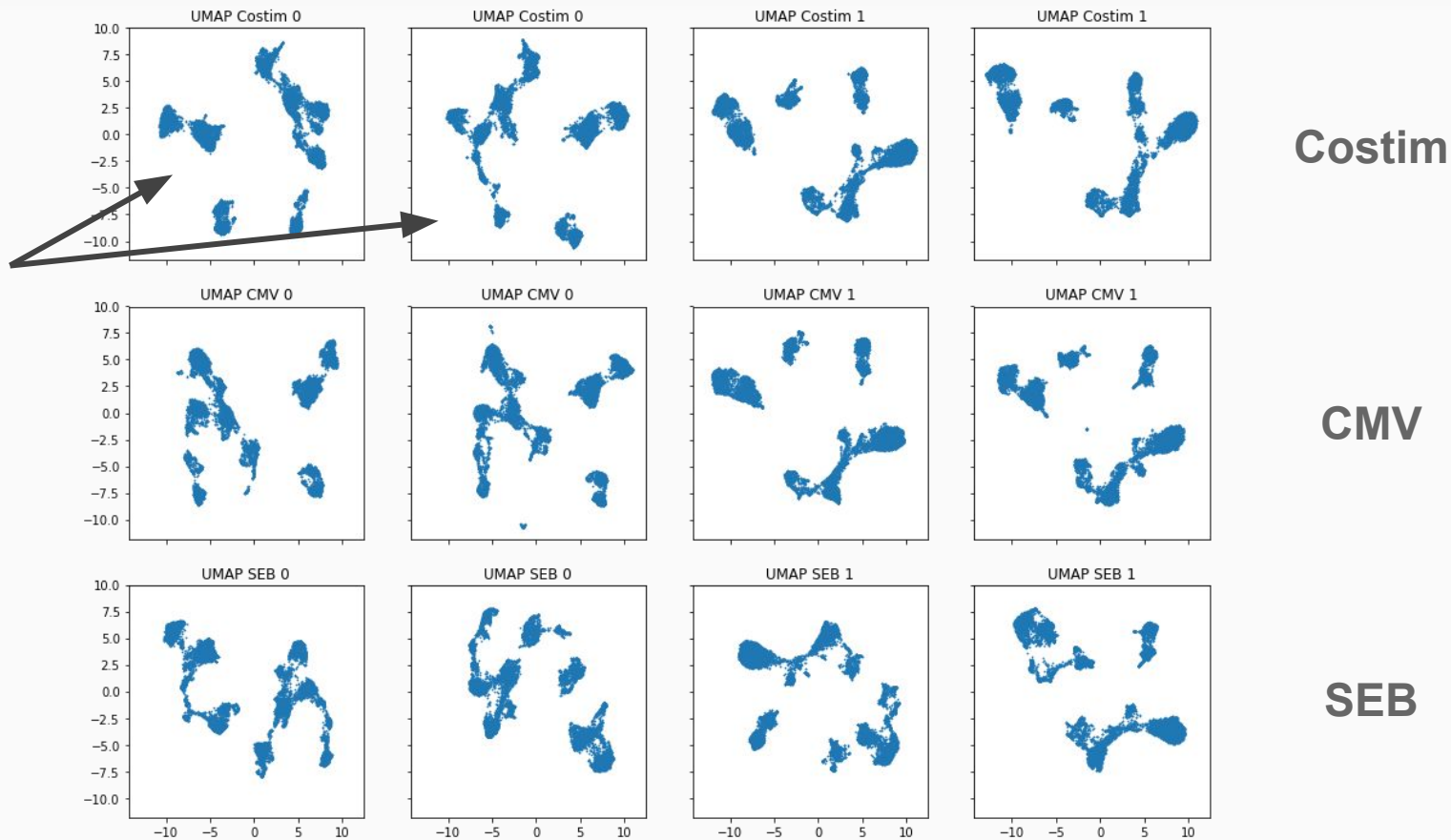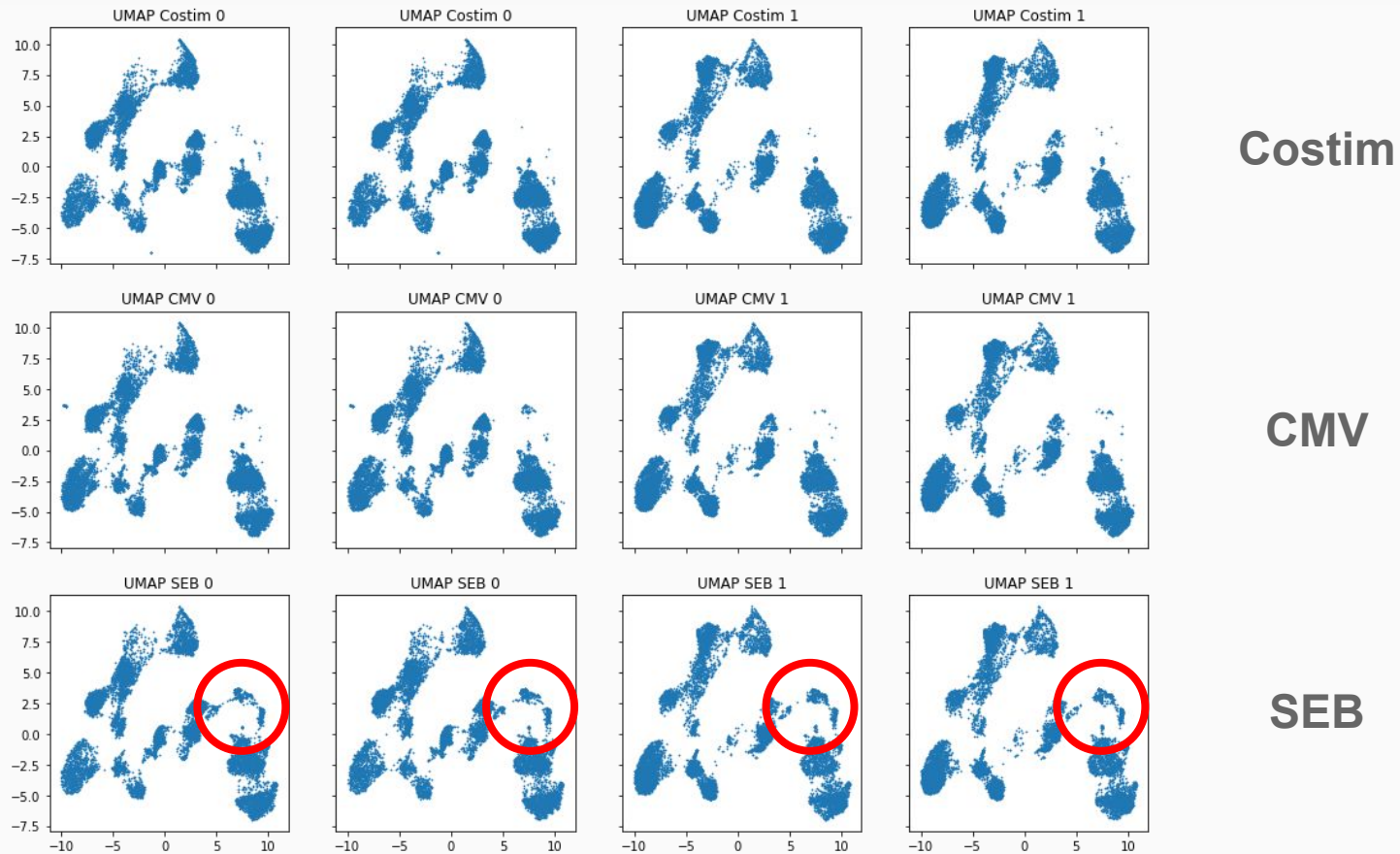# Progress Report

Kuei-Yueh (Clint) Ko

Run UMAP individually

Randomly subset 10,000 events on the same sample

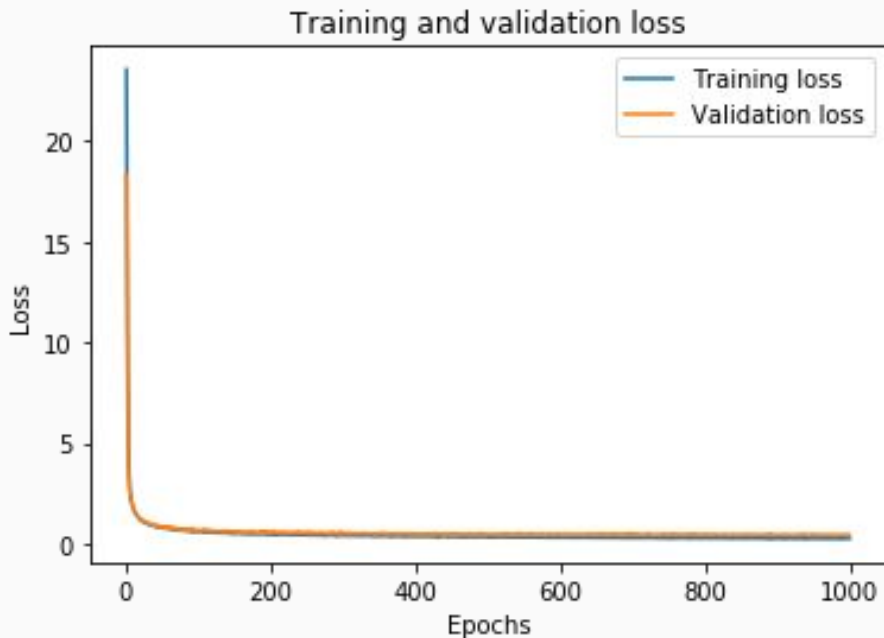# Run UMAP on pooled samples

Train to approximate the mapping function using samples from Costim, CMV and SEB.
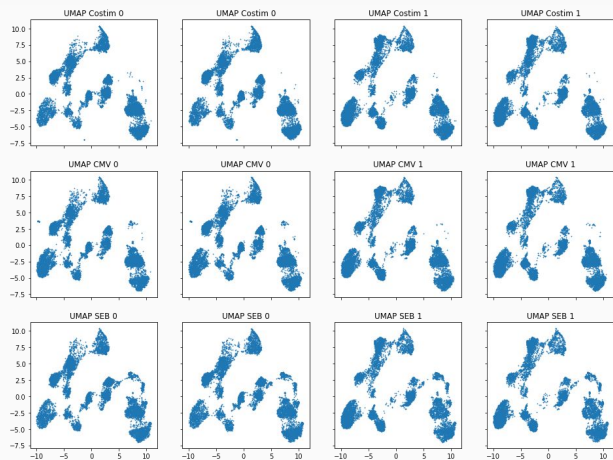

Costim

CMV

SEB

```python
# get the first sample
X        = np.vstack(data_samples_sub[[0, 4, 8]])
y_umap = np.vstack(data_umap_pool[[0, 4, 8]])

# split to train and test
X_train, X_test, y_train, y_test =
train_test_split(
        X, y_umap,
        train_size = 0.9,
        random_state = 0)
```

```python
model = Sequential()
model.add(Dense(128, input_shape=(14,), activation='relu'))
model.add(Dense(64, activation='relu'))
model.add(Dense(2))
model.compile(loss='mse', optimizer='rmsprop',
metrics=['mse'])
```


Training and validation loss

Compare UMAP and Approx. function