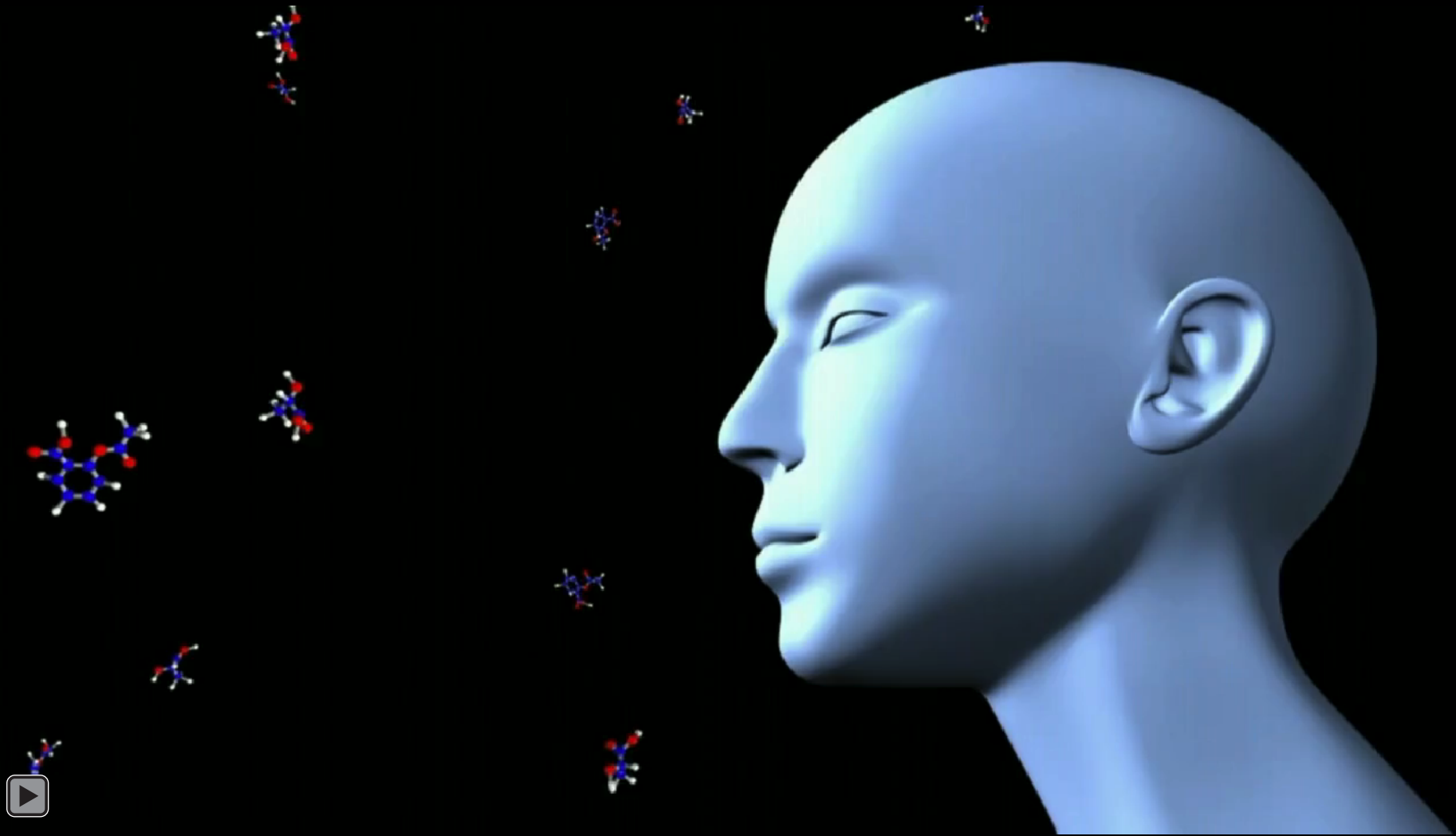


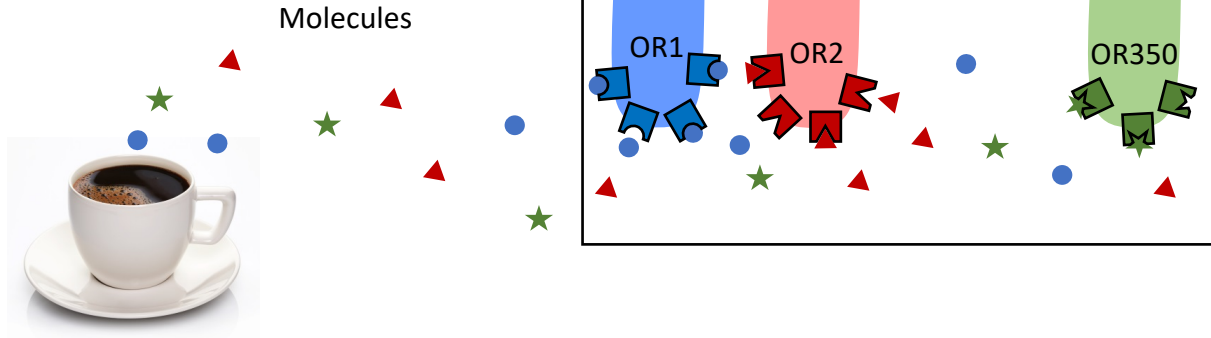
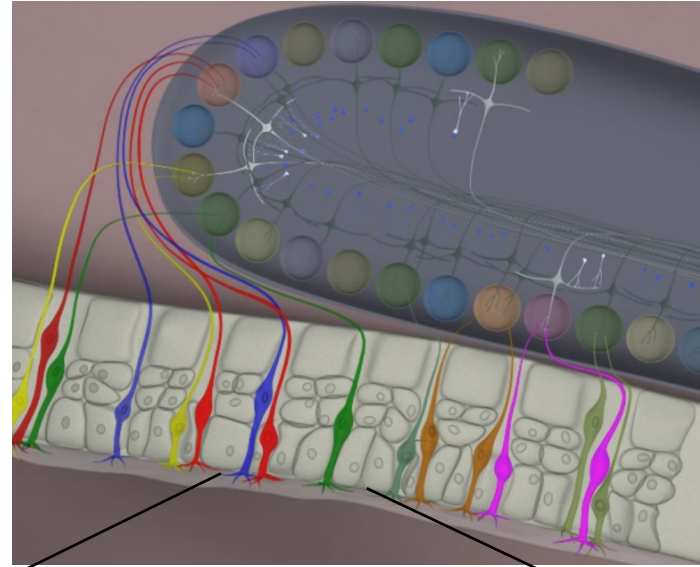
36th International Conference on Machine Learning

**DeepNose: Using artificial neural networks
to represents the space of odorants**

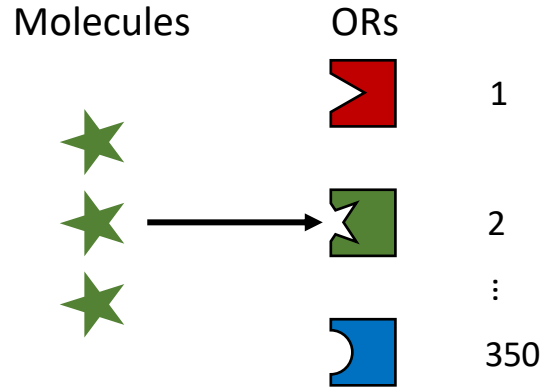
Tumi Ngoc Tran, Daniel Kepple, Sergey Shuvaev, Alexei Koulakov
Cold Spring Harbor Laboratory



Odorant Receptors (ORs)

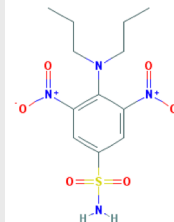
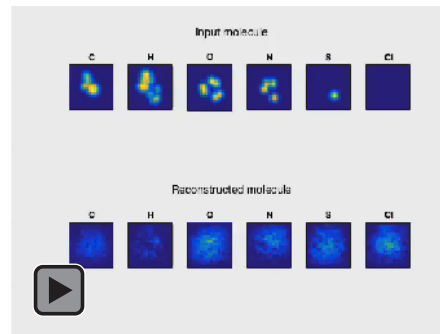
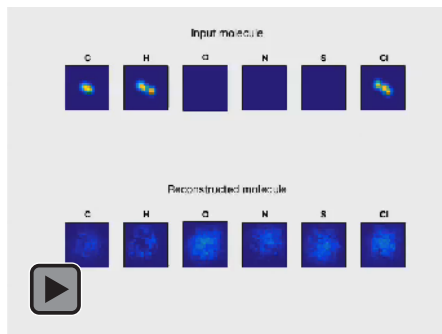
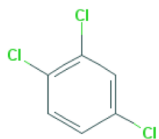
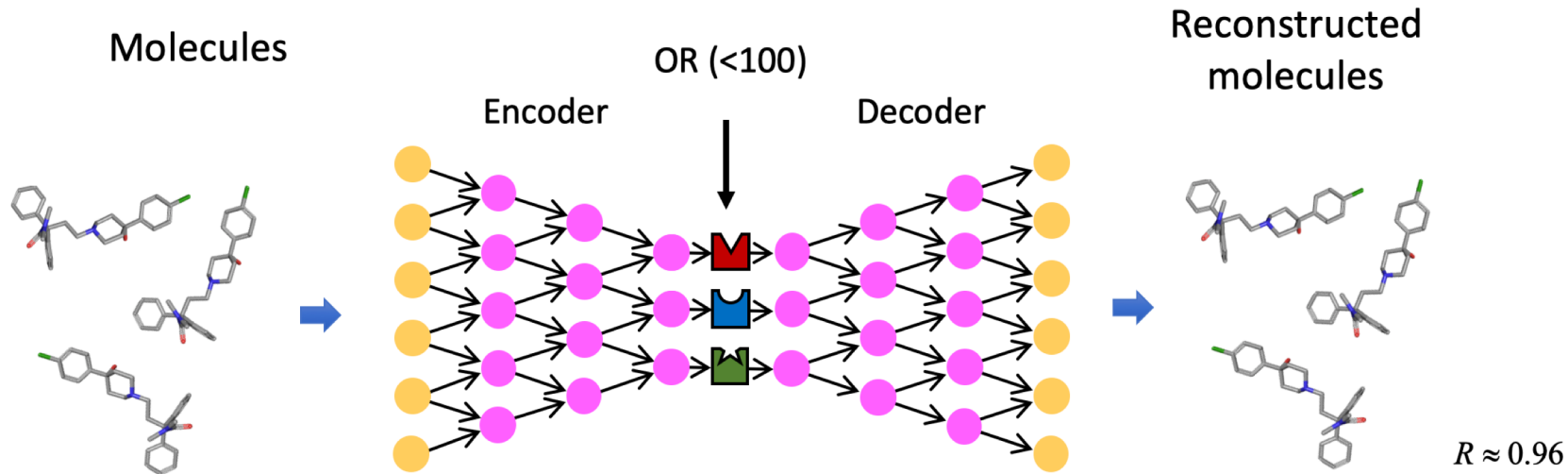


Hypothesis: Odorant receptors are 3D molecular filters.

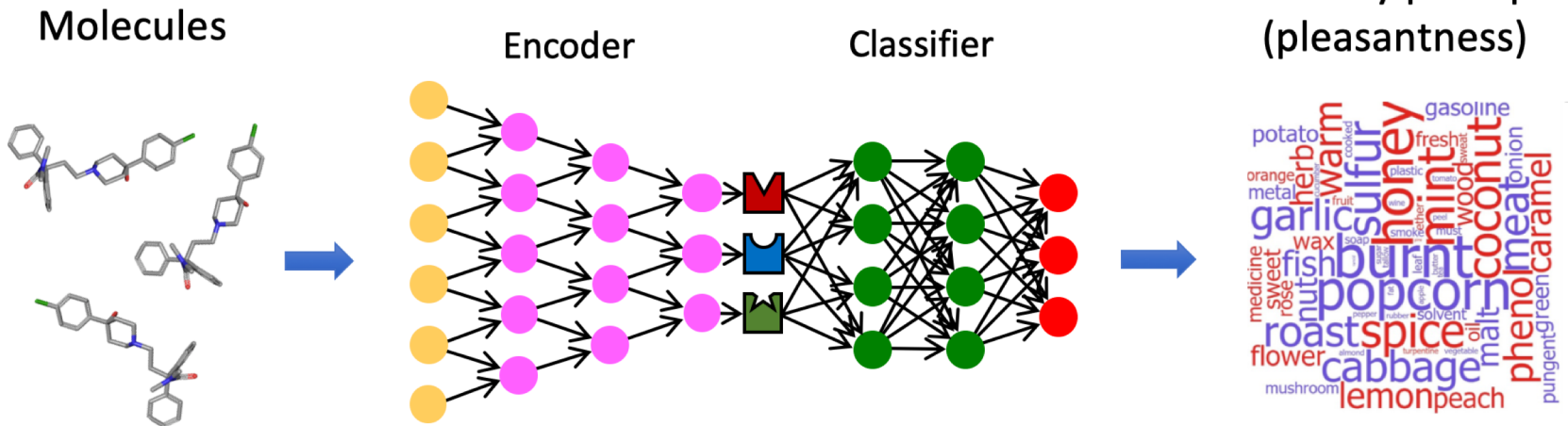


Corollary: They can be 'trained' using neural network methods.

DeepNose autoencoder



DeepNose classifier



$R \approx 0.7$



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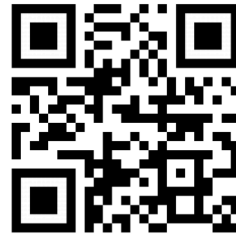
Poster #249

Today at 6:30PM, Pacific Ballroom

<https://doi.org/10.1101/464735>

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CSHL is hiring people interested in applying ML to understand the brain (akula@cshl.edu)