



**700,000 tons per year of dyes  
are produced world wide**

**125 tons per day of dyes  
are dispersed through wastewaters**





**Soil and vegetation  
are affected in agricultural zones**



**Superficial and underground waters  
are highly colored with small dye amounts**

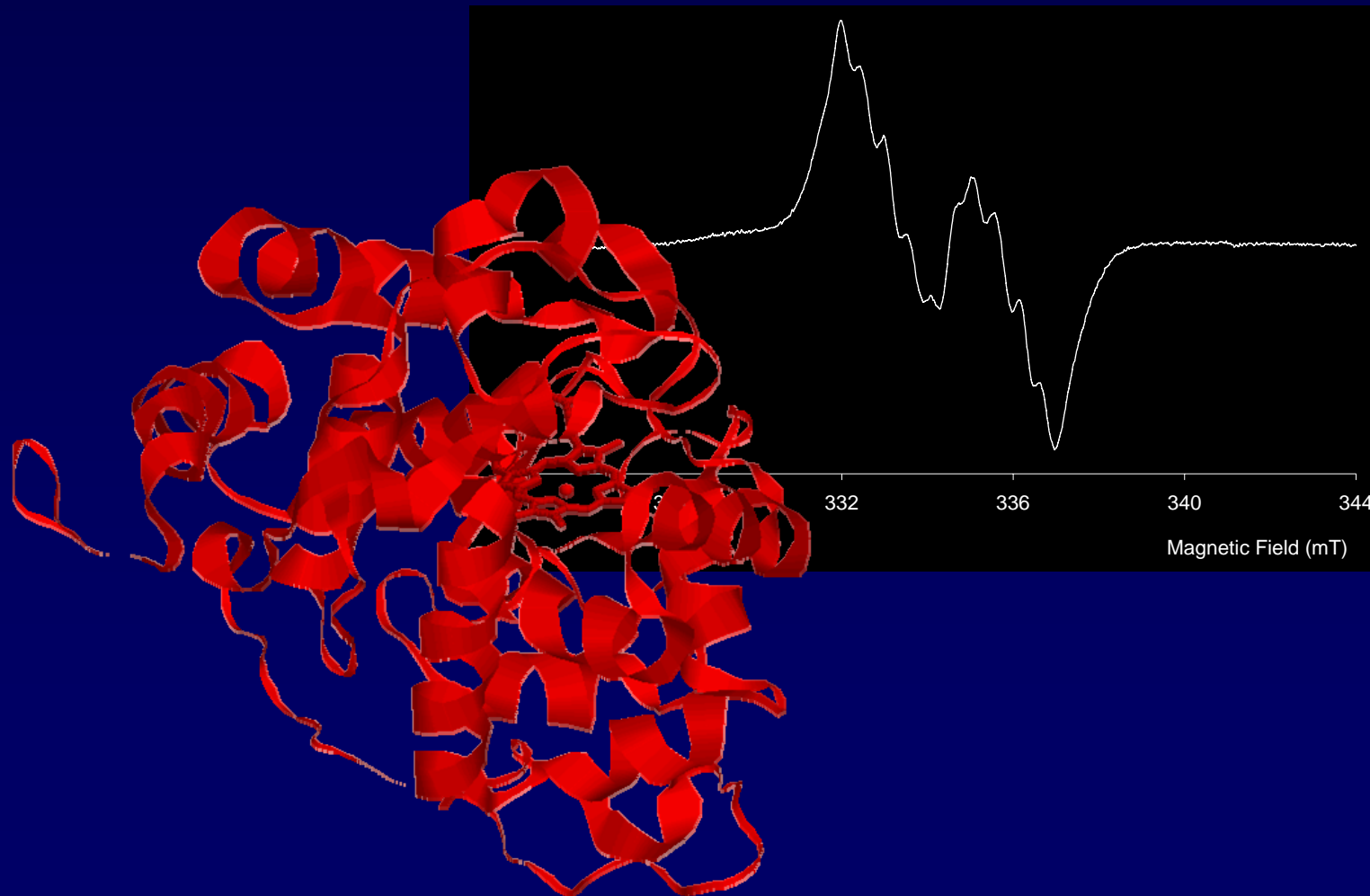
# WHITE ROT FUNGI DECOLOURIZE WASTEWATERS



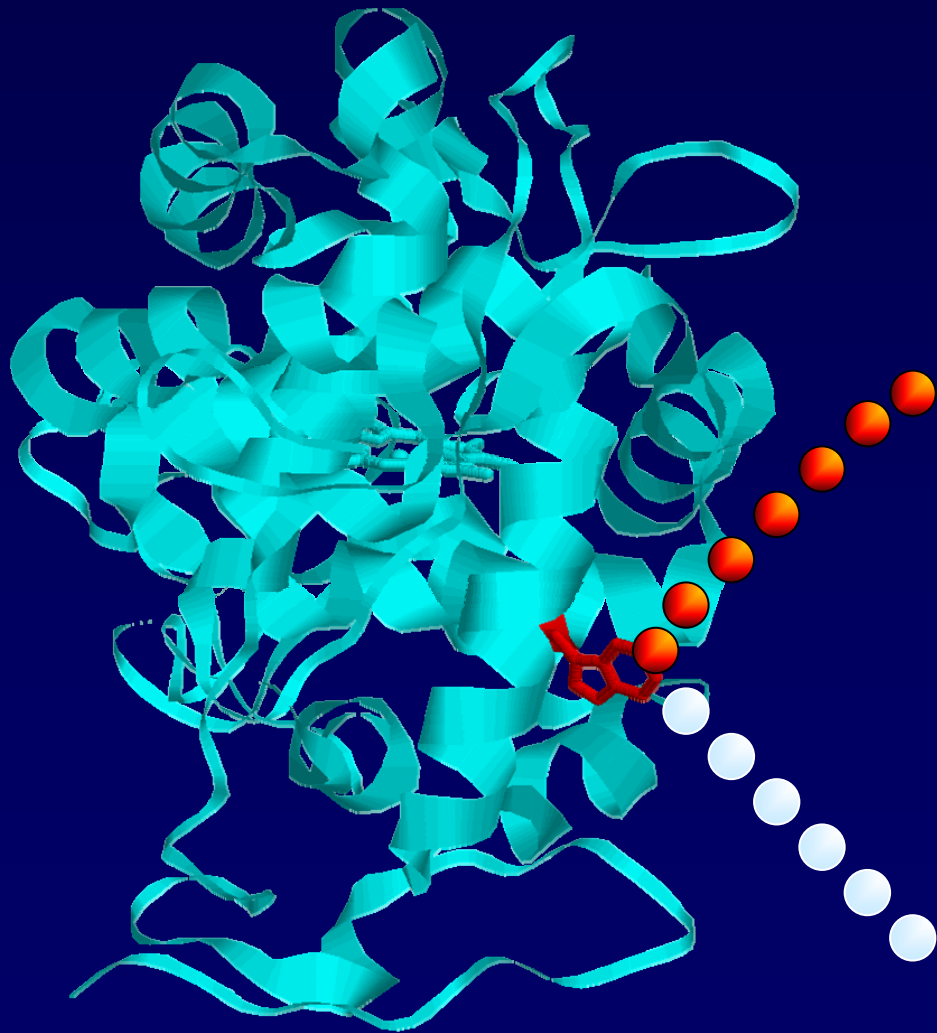
# HOW?



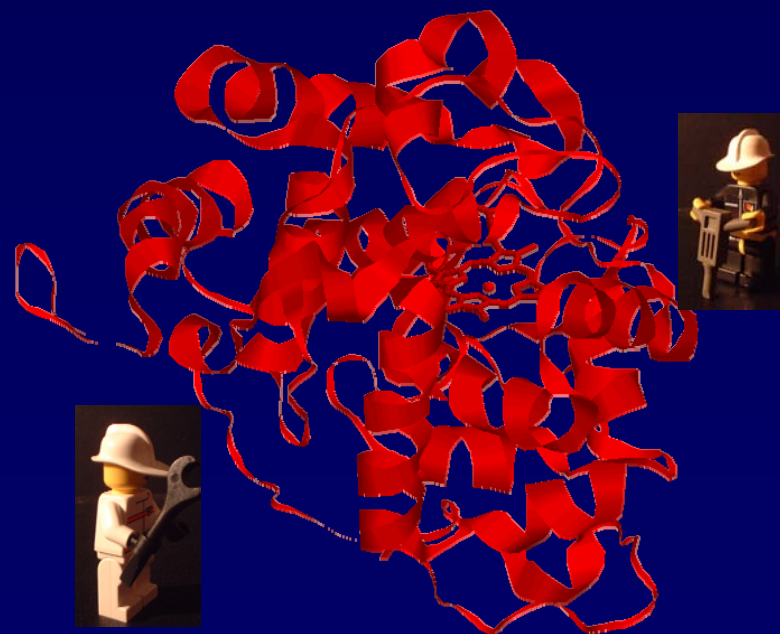
# WE SEE INSIDE



THROUGH SPECTROSCOPIC MEASUREMENTS WE CAN  
DEFINE THE MECHANISM OF ENZYMATIC REACTION  
AND THE SITE OF DEGRADATION OF DYES



TO REDESIGN LIGNINOLYTIC ENZYMES  
WITH IMPROVED STABILITY  
OR  
MODIFIED SUBSTRATE SPECIFICITY



CONTRIBUTION  
OF  
UNIVERSITY OF SIENA

