Competitive interactions within motivational circuits facilitate adaptive exploration

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Humans and animals will often forego immediate rewards, so they can explore an unknown option and learn if it is better than something already experienced. This trade-off is commonly referred to as the explore-exploit dilemma, and it characterizes many decisions that involve uncertainty regarding potential outcomes. To balance exploration and exploitation biological agents need to know when exploration is advantageous. One reason the explore-exploit dilemma is understudied is that computational solutions until recently were not available for deciding when exploration was advantageous in dynamic environments where the value of options changed over time, or were replaced by novel options. Dr. Costa will discuss new results that combine computational modeling with neurophysiology and neuroimaging to illustrate how dopamine and motivational circuits enable exploratory decision making in humans and non-human primates.

Friday, November 3rd, 4pm

Hess Seminar - Room B

WINE and CHEESE reception
5-7pm,Hess, 9th Flr.

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