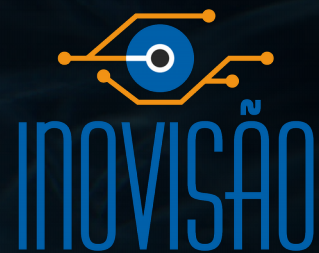


Prof. Hemerson Pistori

Neurociência e Computação



Pecuária de Precisão



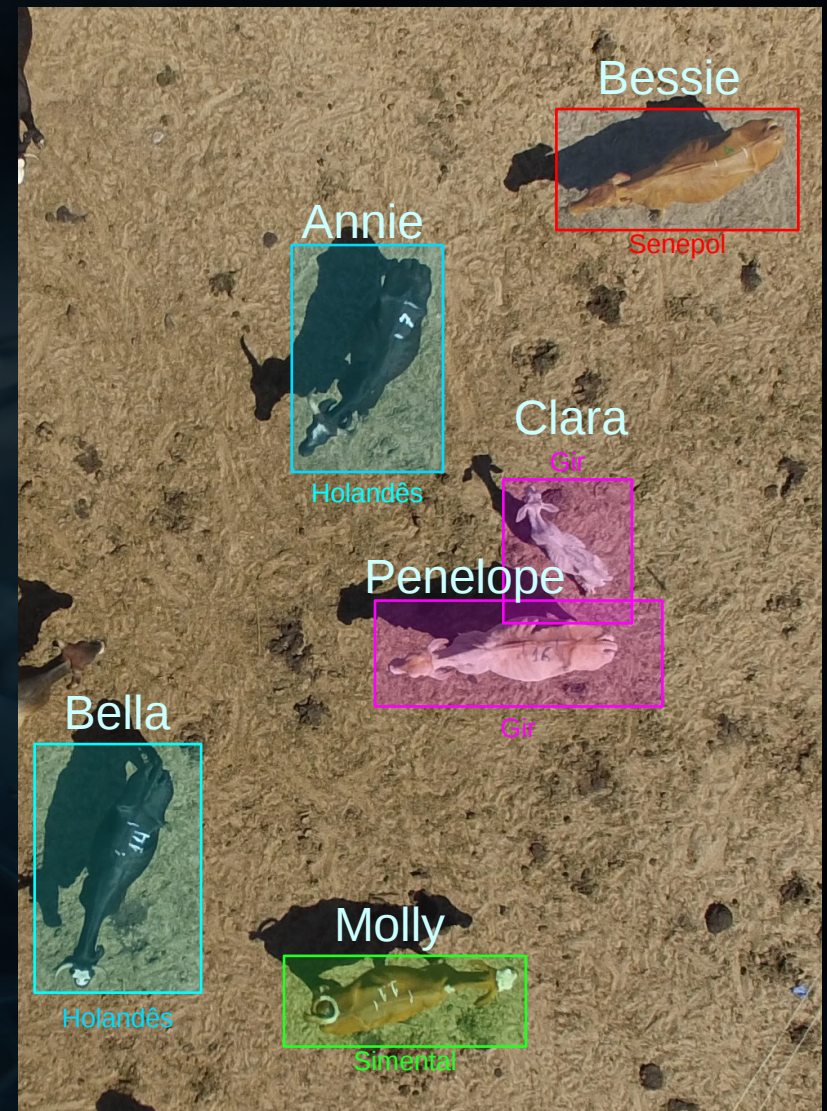
Detecção de objetos



Classificação da raça



Identificação de cada bovino



Reconstrução 3D



Fotogrametria



Diferença entre retina e CCD (por Ben Bogart)



Diferença entre retina e CCD (por Ben Bogart)



Diferença entre retina e CCD (por Ben Bogart)



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Diferença entre retina e CCD (por Ben Bogart)

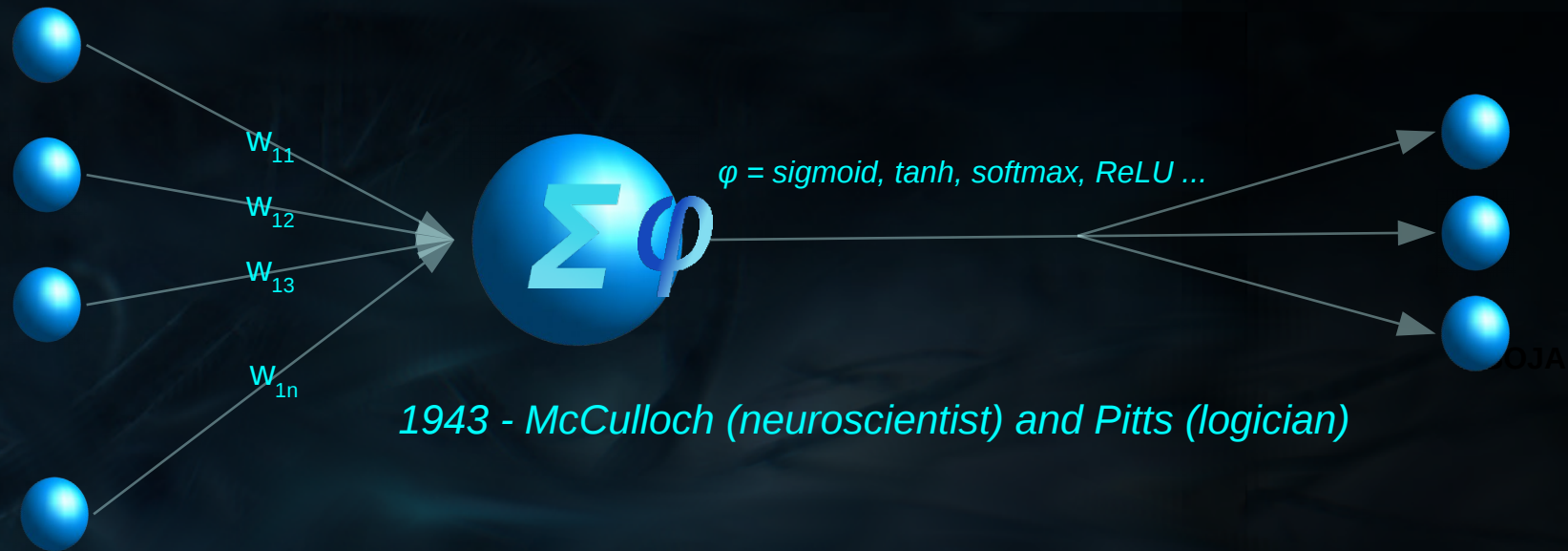


Diferença entre retina e CCD (por Ben Bogart)

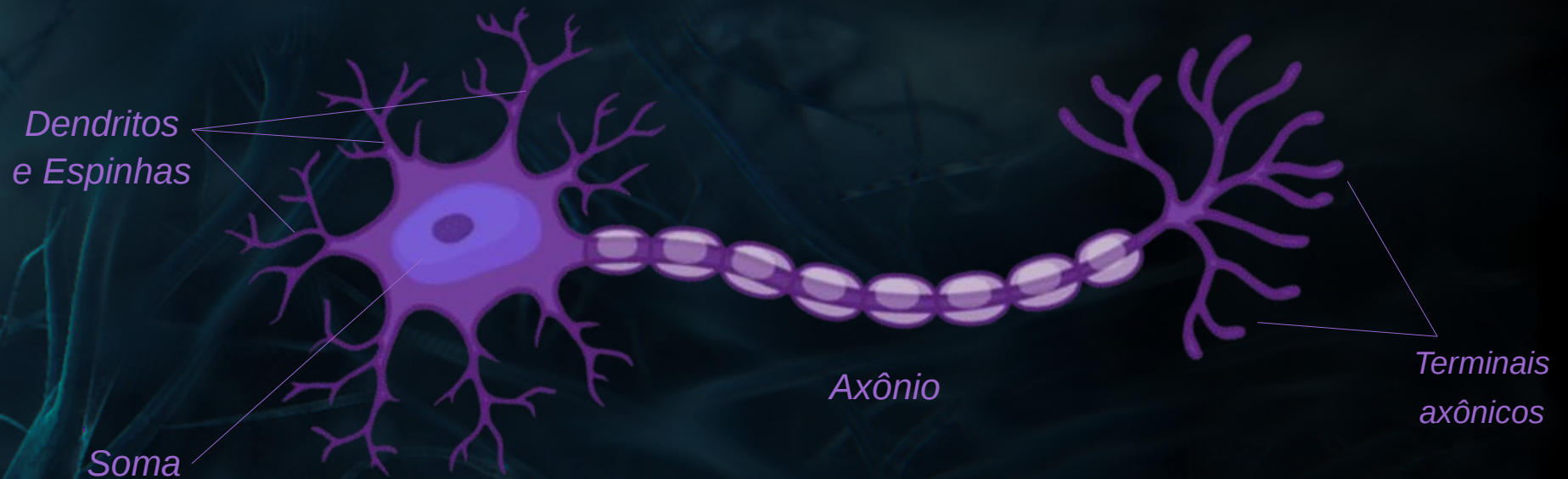


Vasos sanguíneos

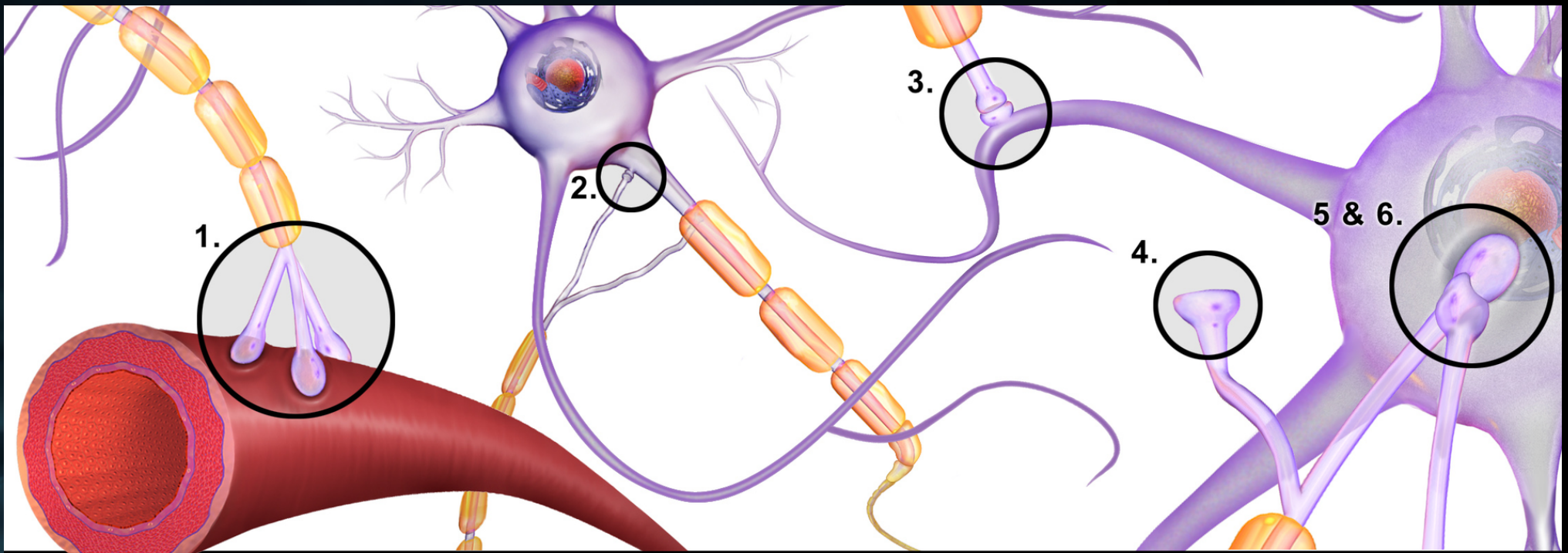
Neurônios artificiais e biológicos



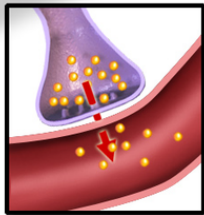
1943 - McCulloch (neuroscientist) and Pitts (logician)



Tipos de sinapses



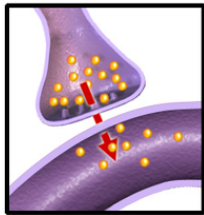
1.



Axosecretory

Axon terminal secretes directly into bloodstream

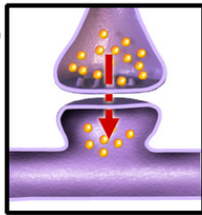
2.



Axoaxonic

Axon terminal secretes into another axon

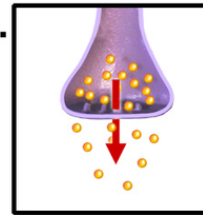
3.



Axodendritic

Axon terminal ends on a dendrite spine

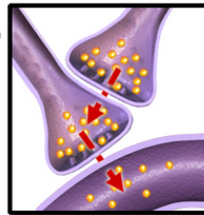
4.



Axoextracellular

Axon with no connection secretes into extracellular fluid

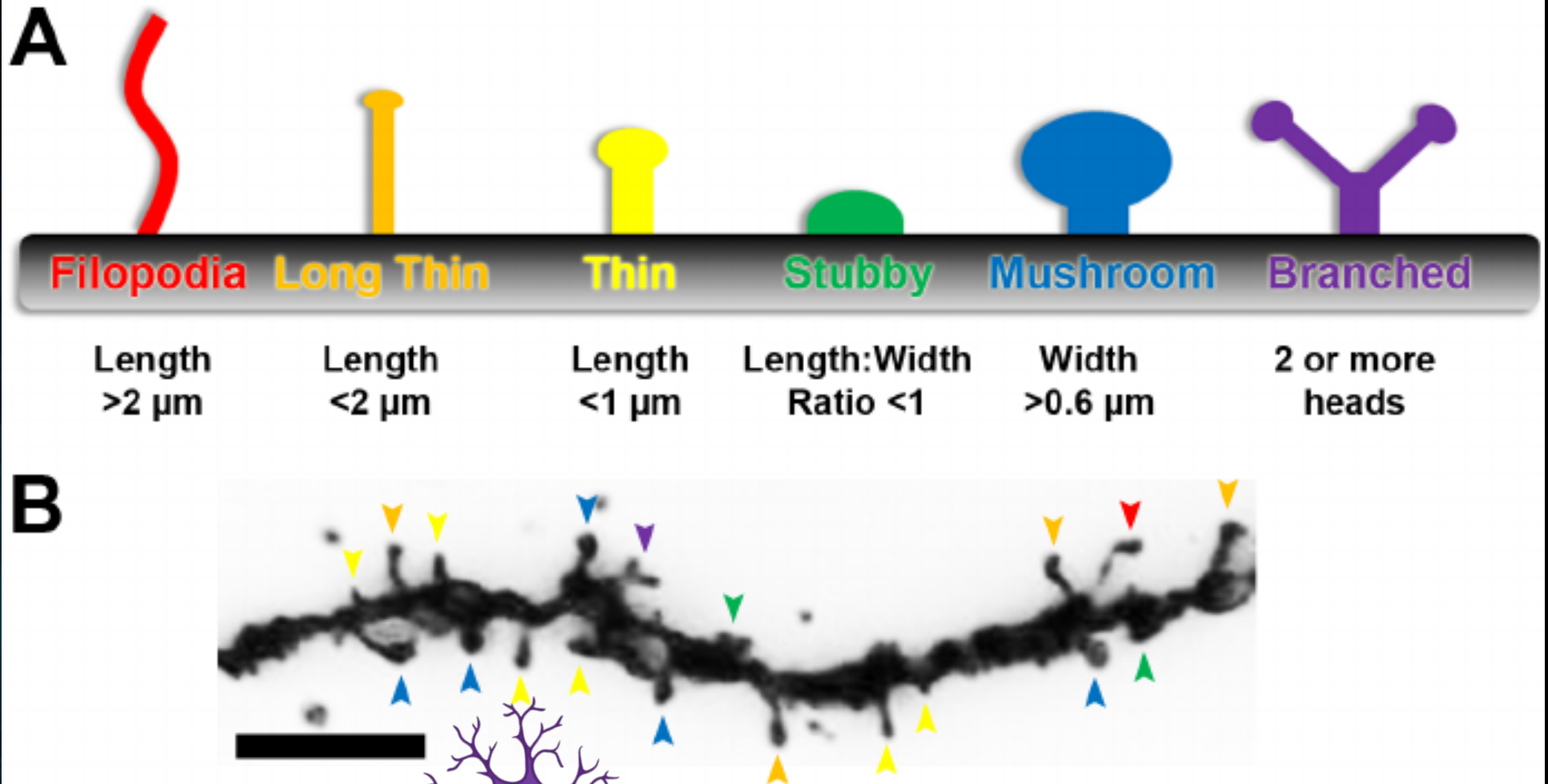
5 & 6.



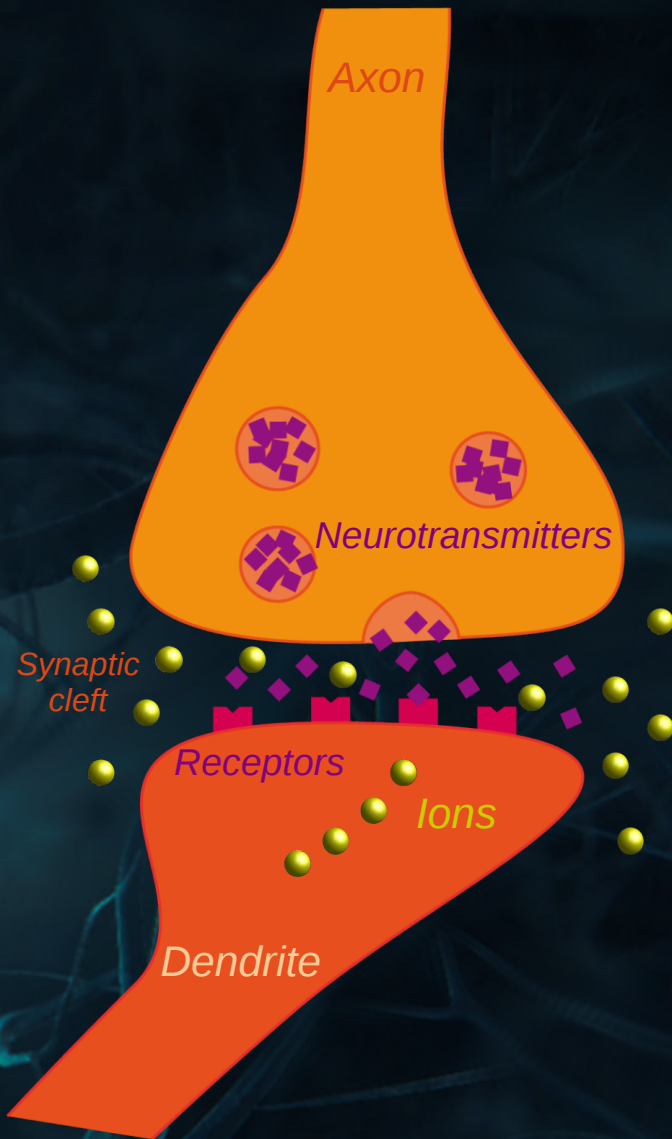
Axosomatic

Axon terminal ends on soma
Axosynaptic
Axon terminal ends on another axon terminal

Tipos de espinhas dendríticas



Tipos de neurotransmissores



THE STRUCTURES OF NEUROTRANSMITTERS

STRUCTURE KEY: ● Carbon atom ○ Hydrogen atom ○ Oxygen atom N Nitrogen atom R Rest of molecule

ADRENALINE

Fight or flight neurotransmitter



Produced in stressful or exciting situations. Increases heart rate & blood flow, leading to a physical boost & heightened awareness.

NORADRENALINE

Concentration neurotransmitter



Affects attention & responding actions in the brain, & involved in fight or flight response. Contracts blood vessels, increasing blood flow.

DOPAMINE

Pleasure neurotransmitter



Feelings of pleasure, and also addiction, movement, and motivation. People repeat behaviours that lead to dopamine release.

SEROTONIN

Mood neurotransmitter



Contributes to well-being & happiness; helps sleep cycle & digestive system regulation. Affected by exercise & light exposure.

GABA

Calming neurotransmitter



Calms firing nerves in CNS. High levels improve focus; low levels cause anxiety. Also contributes to motor control & vision.

ACETYLCHOLINE

Learning neurotransmitter



Involved in thought, learning, & memory. Activates muscle action in the body. Also associated with attention and awakening.

GLUTAMATE

Memory neurotransmitter



Most common brain neurotransmitter. Involved in learning & memory; regulates development & creation of nerve contacts.

ENDORPHINS

Euphoria neurotransmitters



Released during exercise, excitement, & sex, producing well-being & euphoria, reducing pain. Biologically active section shown.



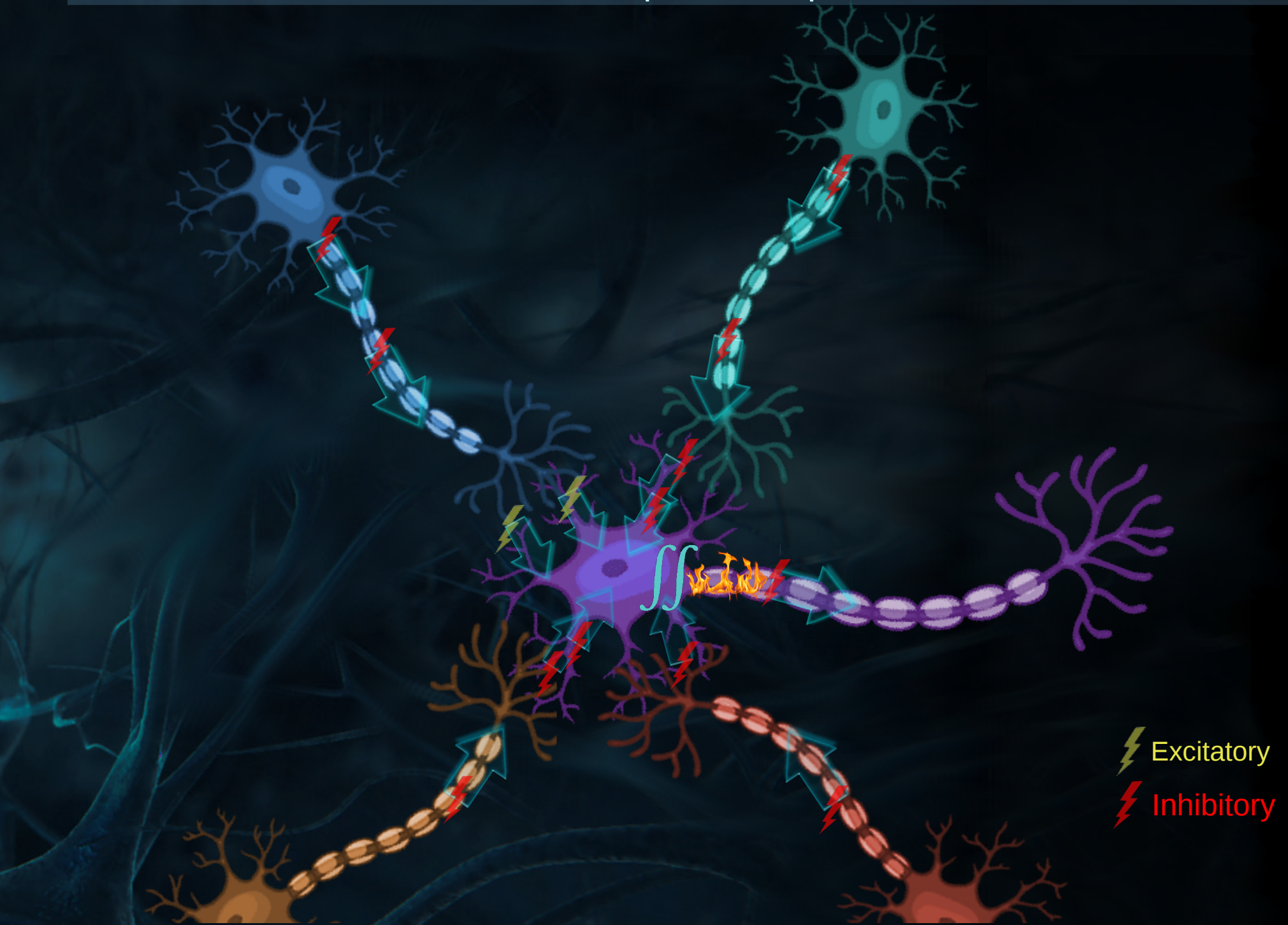
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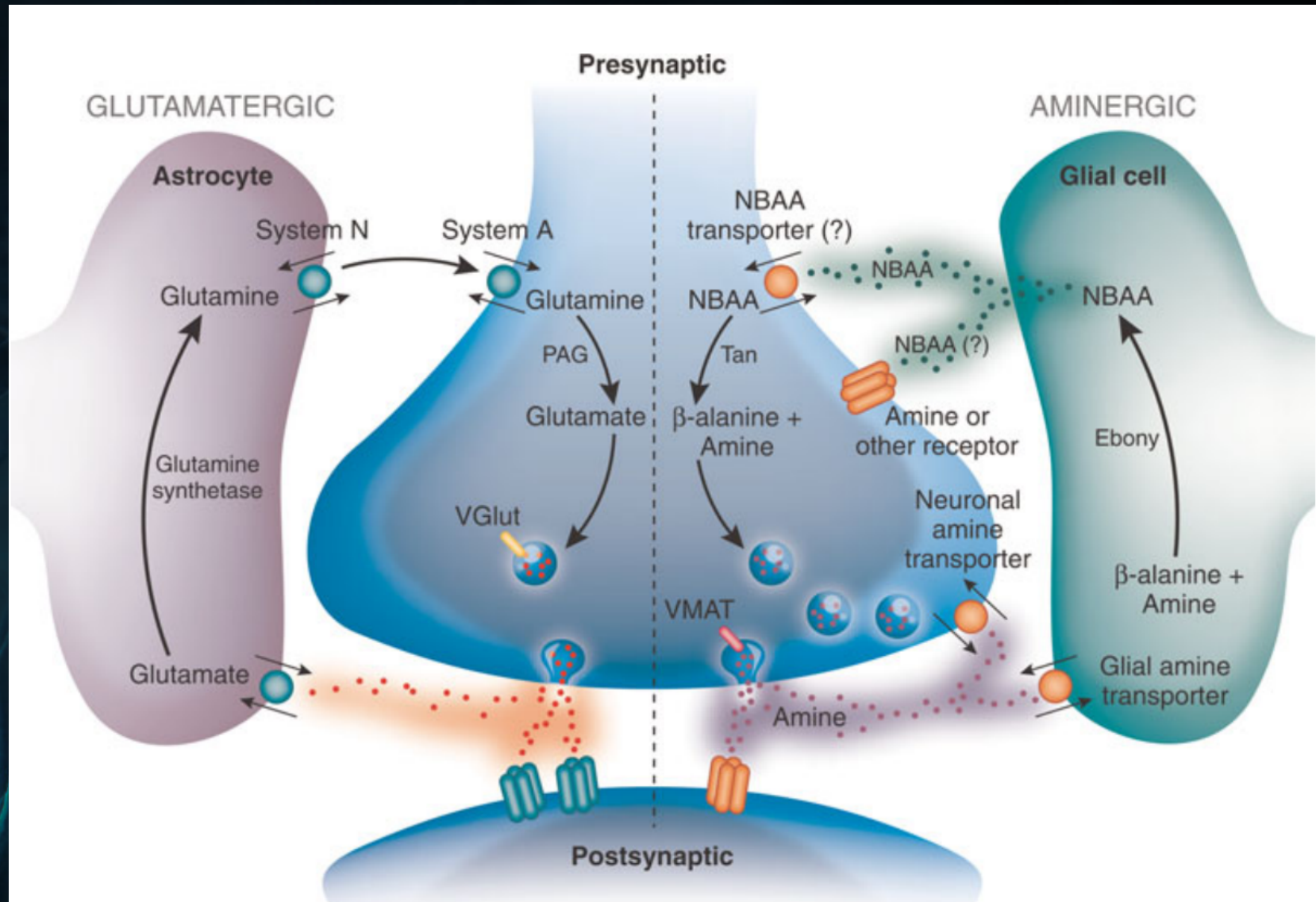
Credits: <https://www.compoundchem.com/2015/07/30/neurotransmitters/>

Credits: <https://www.kisspng.com>

Soma temporal e especial



Outras coisas além dos neurônios



Neurociência Computacional Cognitiva

Neurociência

*... explicar padrões
de atividades neuronais ...*

*... usando Modelos
Computacionais que ...*

*... explicam dados de
comportamento ...*

Ciências Cognitivas

*... realizam tarefas
complexas ...*

Inteligência Artificial



Obrigado !!!

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