It is hereby discussed how drugs can change the brain to foster compulsive drug use. Addiction is considered a disease that affects both the brain and behavior of the person involved. This addiction has biological and environmental factors related to it, but it is true that genetic variations can contribute the development and the progression of the disease.

Drug addiction, also known as Substance Dependence, is a chronically relapsing disorder that is characterized by compulsion to seek and take the drug, loss of control in limiting intake, and emergence of a negative emotional state (e.g., dysphoria, anxiety or irritability) when access to the drug is prevented.

Addiction causes physical changes in areas of the brain that are critical to judgment, decision making, learning and memory, and behavior control. Scientists believe that these changes alter the way the brain works and may help explaining the compulsive and destructive behaviors of addiction.

### CONCLUDING REMARKS

- Drug-evoked synaptic plasticity in the mesocorticolimbic DA system is common to all addictive drugs.
- The neurochemical systems implicated in the acute reinforcing effects of drugs of abuse include key elements of the basal forebrain linked by the mesocorticolimbic DA system.
- LTP/LTD processes are affected by drug consumption, as well as the AMPAR/NMDAR ratio.
- Cocaine increases extracellular dopamine levels by interacting with dopamine transporters.

### RELEVANT LITERATURE