



Seminars on



Drug Addiction (K5-12)

Photo of a spider's web (by mm, Hawaii, 2002).

The picture is meant to illustrate the analogy between drug addiction and a spider's web, which is weaved slowly, and imprisons its prey.

Seminars on drug addiction

Dr. Marinelli offers seminars on drug addiction for children in grades 4-12.

Outline of the seminars

The seminars are based on power-point animated slides, which familiarize the students with different concepts of addiction.

According to the length of the seminar, the following topics can be covered:

- Definition of addiction (& how it changed over the years)
- Different classes of addictive drugs
 - For one or more of the following: cocaine, alcohol, tobacco, morphine/heroin, marijuana
 - Brief description of the drug's past history & current use.
(i.e. when the drug began to be used/abused, how many people abuse the drug, their age...)
 - Main effects and "side-effects" of the drug (on the brain/body – e.g. images of lung cancer etc...)
- Animal studies: how and why animal studies are useful to understand addiction
- Brain circuits of addiction
- How and why drugs become addictive (effects of drugs on the brain reward circuits)
- Factors that influence "vulnerability" to become addicted
 - Inter-individual differences, age, stress, previous exposure to drugs... (animal and human data).

The seminars can be of any length (from 20 min to 2 h long).

They can be "lecture-like" or more interactive (asking students questions, opinions etc); interaction is best achieved in longer (>40 min) seminars.

At least two weeks before the seminar, please let us know:

Which of the above topics/drugs you wish to cover

The age(s) of the students

The approximate number of students that will attend the seminar

The seminar speaker can bring her own computer and video projector if necessary

Contact: micky.marinelli@rosalindfranklin.edu (speaker)
Charena.LoftonFullwo@rosalindfranklin.edu (Feet First Museum)

Biography of the speaker

Michela (Micky) Marinelli graduated in 1991 from the University of Rome (Italy), where she obtained a degree in Pharmacy (*magna cum laudae*). In 1997 she obtained her Ph.D. in Pharmacology and Neuroscience (*magna cum laudae*) at the University of Bordeaux 2 (France). After a post-doctoral training in the United States, she was hired as an Assistant Professor by the French INSERM (the French equivalent to the American NIH). Three years later, in 2003, she was recruited by the Dept. of Cellular & Molecular Pharmacology, at the Rosalind Franklin University of Medicine & Science, in North Chicago, where she currently works as an Associate Professor.

Dr. Marinelli's research seeks to understand the neurobiological bases of drug addiction. She uses a "systems approach", which means that she examines and integrates different levels of information (multiple variables) to understand how systems work and interact. These variables are studied in animals models, and they go from the cellular level (neuronal activity, using electrophysiological techniques; neurochemistry, using *in vivo* microdialysis techniques), to the molecular level (protein expression), to the whole animal level (behavioral studies, such as drug self-administration behavior).

Her current projects focus on understanding if and why adolescence could be a period of enhanced "vulnerability" to develop substance abuse disorders, and if and how stress can modify addiction liability and propensity to relapse.

In addition to her research, Dr. Marinelli teaches pharmacology to medical students, and graduate courses to PhD students in Neuroscience and Pharmacology. She has given several seminars on drug addiction to students in the United States and in France.

Web page: www.rosalindfranklin.edu/chicagomedicalschool/tabid/1405/Default.aspx

Previous lectures on drug addiction and related topics:

LeadAmerica, Illinois, USA (grades 8-12)

Northwestern University – Center for Talent Development, Saturday Enrichment Program,
at Woodland Intermediate School, Gurnee, IL (grades 6-8)

Barrington High School (grades 11-12)

Beach Park Middle School (grade 8 gifted and talented)

Deerfield High School (AP biology, grades 9-12)

Hart Elementary School (grades 4-5)

Lake County Baptist High School (grades 11-12)

Libertville High School (grades 11-12)

University of Wisconsin Park Side, Doctors of Our Community (grades 11-12)

University of Illinois Extension: Science exploration camp (ages 11-13)

Waukonda High School (grades 11-12)

Wheeling Park District (ages 11-13)

Lycée Val de Garonne, Marmande, France (grades 9-12)

Lycée Saint St Exupéry, Parentis en Born, France (grades 9-12)