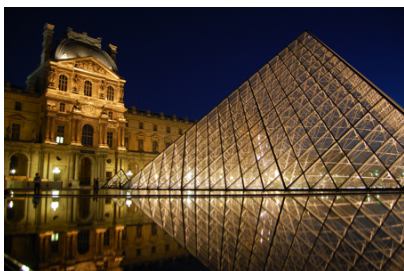


# Student's Research Adventure - 2010

## Adele Zhou - A Paris Adventure



Paris. It's the City of Light. A city of culture... of fine dining and magnificent architecture. Many people dream of visiting this city at least once in their lifetime, it is a city for lovers: lovers of art, lovers of history, lovers of food, lovers of... love. Like most of people, I dreamed about the day that I would be able to visit Paris, little did I know that I would be given the opportunity of a lifetime - to spend an entire summer living and working in the heart of Europe. As a BRAVO! Participant I spent my summer researching in **Dr. Vincent Colot's epigenetic lab at the l'Ecole Normale Supérieure** located in the Latin quarters in the heart of



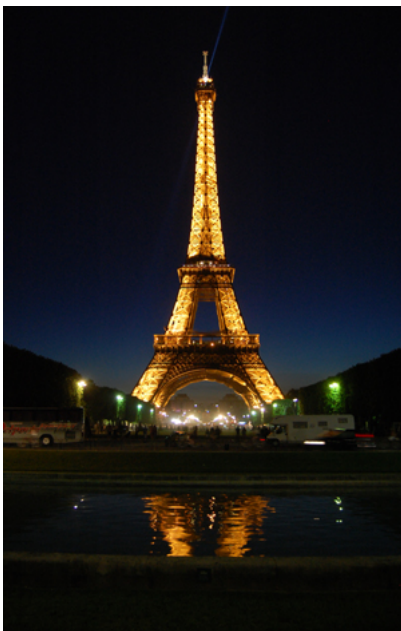
Paris.

Epigenetics is the study of inherited changes in gene expression caused by mechanisms other than changes in the underlying DNA sequence. Vincent's lab mainly focuses on the mechanism of DNA methylation and chromatin-based epigenetic processes in *Arabidopsis*. I was a bit nervous when I first met the 17 people that I would work with for the rest of summer. But there was no reason for me to be nervous, everyone was so accommodating and always so willing to help and answer my questions.

My project focused more on the methylation state of newly inserted transposable element copies in *Arabidopsis*.



Transposable elements (TEs) are pieces of DNA that can move around to different positions within the genome. These are the "jumping genes" that were discovered by Barbara McClintock in maize in 1948, for which she was awarded a Nobel Prize. These TEs can be harmful to the integrity of the genome by disrupting genes through insertion as well as effecting the expression of other genes near or in which they reside. This is where DNA methylation comes into play - methylation is a mechanism that the organism can use to defend against harmful TE insertions by silencing the DNA that codes for that particular TE. My project specifically involved detection of these new TE insertions and checking to see if and when the plant will silence these potentially harmful insertions.



Apart from working in lab full time during the weekdays, I utilized my weeknights and weekends to explore numerous must-see sights in Paris as well as some not so well known locations. Paris is home to the world famous Eiffel Tower, Notre Dame Cathedral, Arc de Triomphe, Avenue des Champs-Élysées, Sacré-Coeur Basilica, and of course the Louvre.

Some of these sites were within walking distance from work, while others were only a short ride away on the busy Paris metro. I was very fortunate to be in Paris during the French Independence Day on July 14th, also known as Bastille Day. From watching the military parade down the Champs-Élysées in the rain to the stunning fireworks at the Eiffel Tower at night, it was an unforgettable celebration! I was also fortunate enough to be standing near the finish line of the famous Tour de France!



After living in Paris for 11 weeks, there were definitely moments when I felt Parisian - especially during those times when I would walk to the local bakery and buy my daily baguette and pastries, or when I sat at a café sipping on my espresso. It was a summer filled with adventure and learning, both in life and in science. I am forever grateful to Dr. Vincent Colot, my mentor in Paris, and Dr. Vicki Chandler, my mentor at the University of Arizona. I would also like to thank Carol Bender, Christine Duddleston, and the BRAVO! Program. I would like to recognize funding from HHMI (52005889) and the BRAVO! Program for providing this once in a lifetime experience.

[Undergraduate](#)<sup>[1]</sup>

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