

**E. Gordon Young Lectureship of the Chemical Institute of Canada
and
75th Canadian Institute for Chemistry Lectureship Committee
present lectures by**

Dr. Jaqueline Barton, California Institute of Technology

September 20 and 21, 2004

Dr. Barton is the Arthur and Marian Hanisch Memorial Professor of Chemistry at the California Institute of Technology. She has won many prestigious awards from the American Chemical Society, the National Science Foundation and the National Academy of Sciences. She has served on many governmental and industrial boards and advisory committees and is presently on the Board of Directors of The Dow Chemical Company.

Dr. Barton will present two lectures

- A public lecture entitled **“DNA: a Different Perspective”**
 - **Monday September 20, at 7.30 pm**
 - **Auditorium of the King’s University College, 9125 50th St. Edmonton.**

The abstract of this lecture follows.

We often think of DNA as the library of the cell, the molecular information that determines what we are. But double helical DNA, a unique polymeric structure, may also be conductive. In fact, whether the DNA base pair stack serves as a medium for efficient, long-range charge transport has been debated by physicists, chemists and biologists almost since the first proposal of DNA's double helical structure. Chemical studies now indicate that the electronic characteristics of DNA depend sensitively upon the stacking of the base pairs, the "steps in the spiral staircase". This sensitivity forms the basis for the design of a completely new family of diagnostic sensors, DNA-based chips to detect damage and mutations. DNA charge transport also promotes chemical reactions, such as oxidative DNA damage and repair, from a distance. These basic chemistry experiments will be described, as will some of the biological consequences of long-range radical migration through DNA.

- A more technical lecture **“DNA, Recognition with Metallointercalators”**
 - **Tuesday, September 21 at 11.00 am**
 - **Room V-107 in the Gunning/Lemieux Chemistry Centre at the University of Alberta.**

Everyone is welcome at both of these lectures.