

# Today in Chemistry History



26<sup>th</sup> February – Ahmed Zewail's birthday (1946) and femtochemistry



**Ahmed Zewail**

**Born**

26 February 1946

**Died**

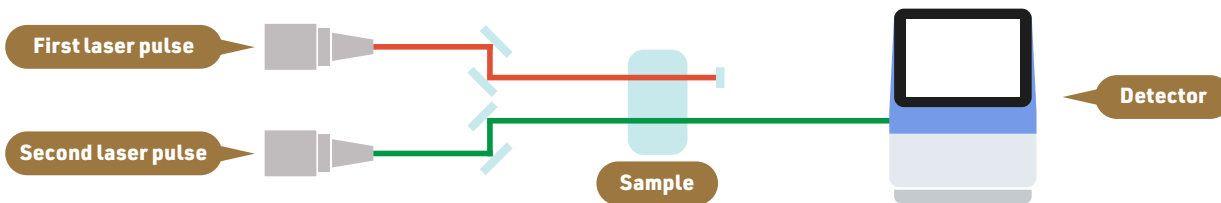
2 August 2016



Zewail won the 1999 Nobel Prize in Chemistry for his work using rapid laser flashes to see how atoms move in chemical reactions.

## Femtochemistry: Taking snapshots of chemical reactions

Many chemical reaction steps happen incredibly quickly – on a timescale of femtoseconds (0.000000000000001 seconds). Femtochemistry is the use of laser flashes, each femtoseconds in duration, to observe atoms and molecules during light-triggered chemical reactions. Ultrafast laser spectroscopy uses an initial laser pulse to trigger a reaction and a second pulse to detect changes.



The spectra picked up by the detector act as fingerprints for molecules, allowing researchers to see the movement of individual atoms during the chemical reaction.