

# **The Use of Systemic Approaches in Teaching and Learning Chemistry for the 21<sup>st</sup> Century**

**A. F. M. Fahmy**  
Faculty of Science  
Ain Shams University  
Abbassia - Cairo - Egypt

**J. J. Lagowski**  
Department of Chemistry & Biochemistry  
The University of Texas at Austin  
Austin, TX 78712, USA

## **Abstract**

On reaching the next century and with the development of communication medias and the ease of information flow, the world seemed to be living in a small village full of developed and interacted information.

The new century generation have challenges that is difficult and numerous, either to find his place in this universe or the international flood of science and knowledge will take him away. So, it is a must to make a revolution in the methods of teaching. So that to create a recognized generation able to see what is going on around the world, and at the same time does not miss his identity. A generation able to forecast and be creative not the student and learn. A generation that is able to see the whole and not to miss some parts of it.

All that made us stop for a while and think a lot about our education reality, then ask if we want really an educational system reaching for requirements of the 21st century? or a system just to qualify the students for succeeding in exams?

We want as we are crossing to the 21st century to change our educational systems from linearity to systemic.

So we introduce here the Systemic Approach in Teaching and Learning Chemistry (SATLC) which means study of chemistry concepts through interacted systems in which all relationships between concepts are clear.