



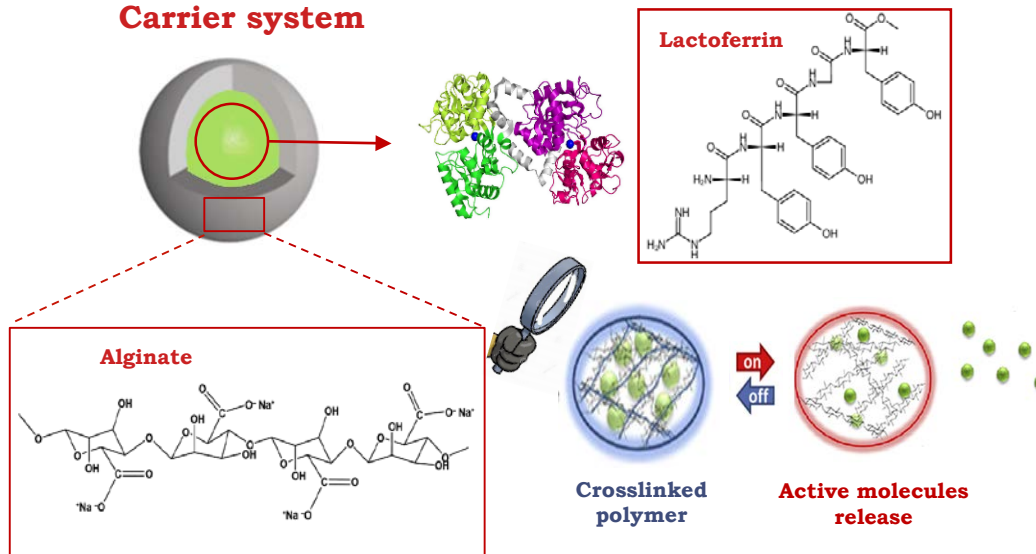
UNIVERSITY OF NAPOLI "FEDERICO II"
POLYTECHNIC AND SCIENCE SCHOOL
Department of Chemical Sciences
Ph.D. School in Chemical Sciences (39° Cycle)



First year activity

Polymeric stimuli-responsive materials are composed of macromolecules with chemical and conformational changes in response to external signals. Lactoferrin (Lf), is an attractive active molecules due to its numerous beneficial effects on the human body. A suitable strategy to enhance Lf stability and safe delivery is to encapsulate it in a matrix carrier system. To this aim, a widely used polymer is alginate due to its biocompatible properties and its easily gelation by ionic crosslinking. The system can be optimized by developing a mathematical Matlab model, able to predict the swelling behavior of the carrier particle in solution and the subsequent kinetic release over time.

Carrier system



Ph.D. Student

Teresa Paduano

Title

"Design of stimuli-responsive materials for the release of active molecules"