Destination Chemistry

Associate Prof. Susan Quinn

Chemistry

Medicinal Chemistry & Chemical Biology

Chemistry and Maths Education

Chemistry with Biophysical Chemistry

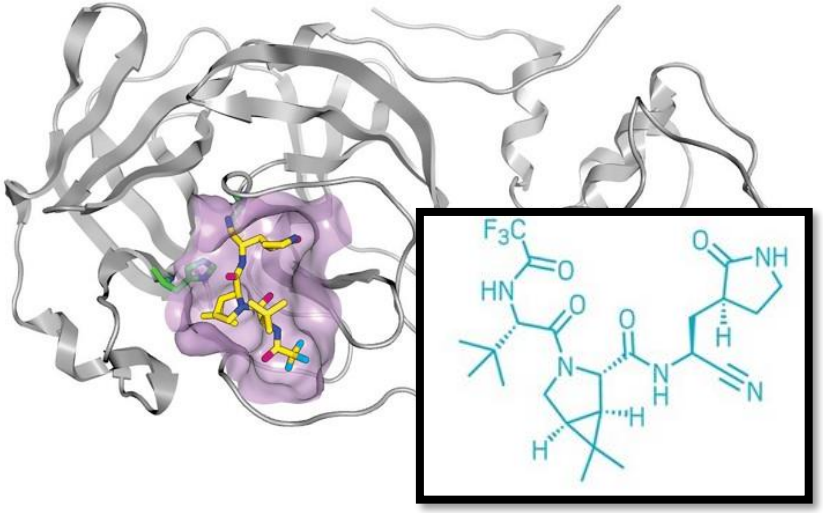
Chemistry with Sustainable & Environmental Chemistry

Stage 2 Advisory Session

Chemistry Meeting the World's Challenges

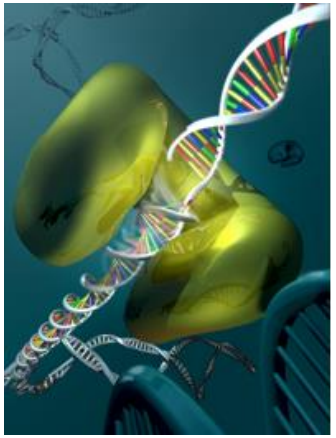
Therapy

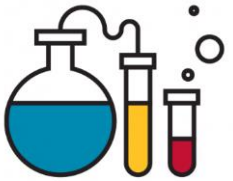
Paxlovid, Pfizer's oral COVID-19 treatment



Diagnosis

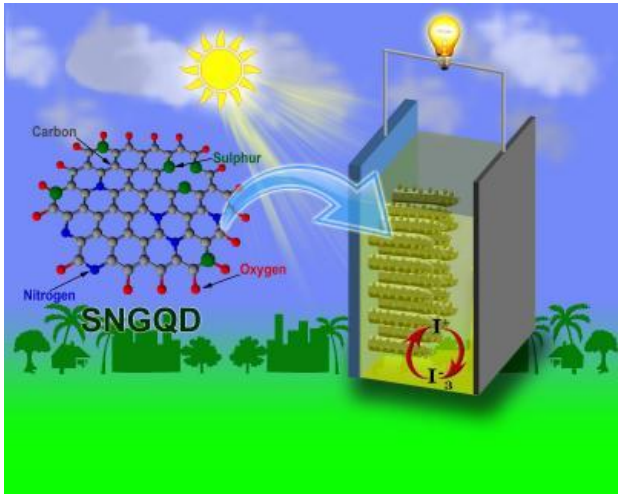
Next generation sensors





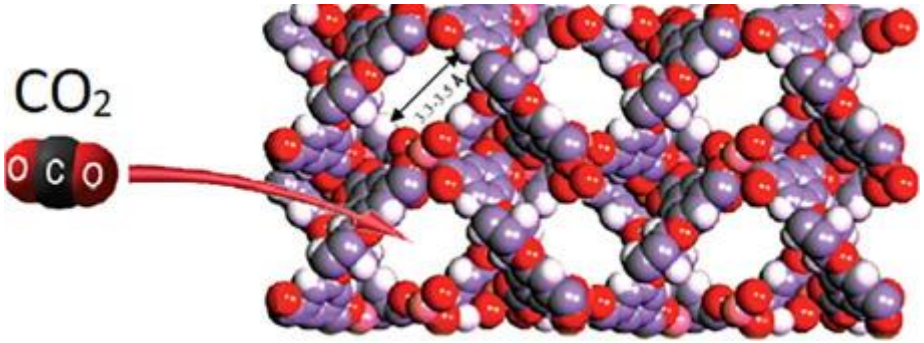
Renewable Energy

Light harvesting



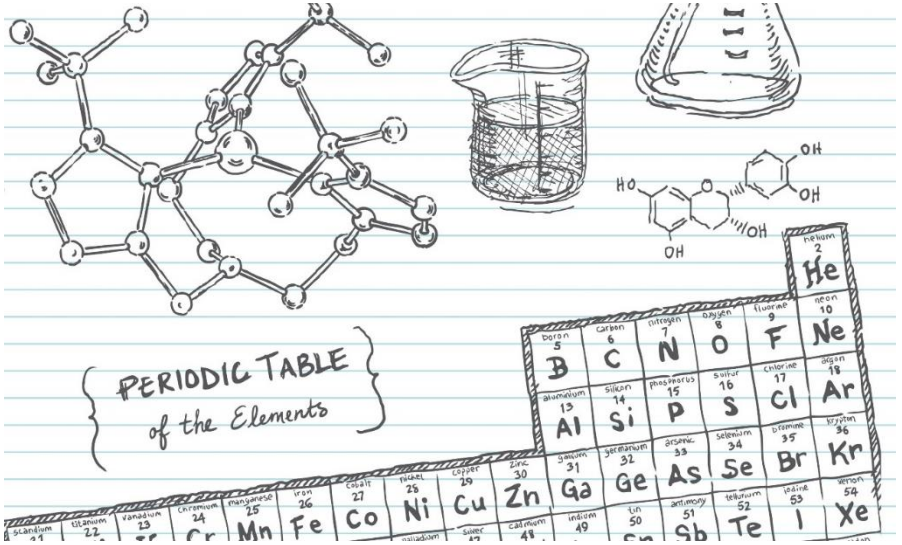
Climate Change

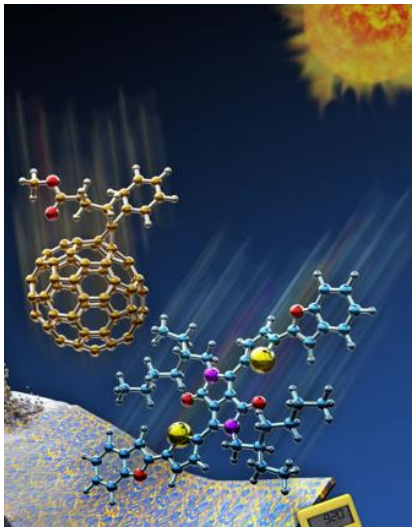
Metal Organic Frameworks



Chemistry

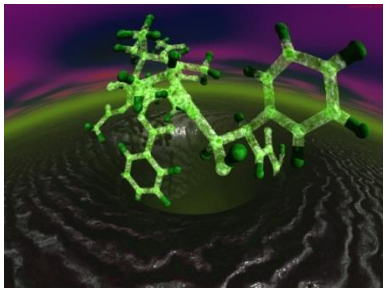
- **Chemists**
  - **Investigate** the natural world, e.g. they study the structures and properties of naturally occurring substances in the environment and in living things.
  - **Invent** new substances to solve problems, e.g. they design and synthesise new medicines and **new materials**

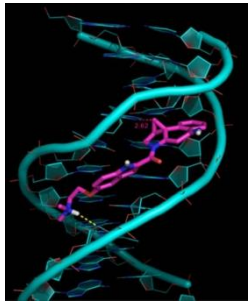




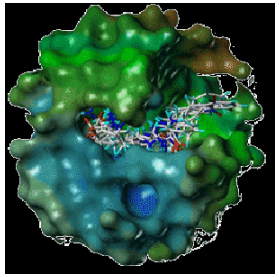
It's easy to overlook how reliant we are on the products made by chemists!

Medicinal Chemistry & Chemical Biology



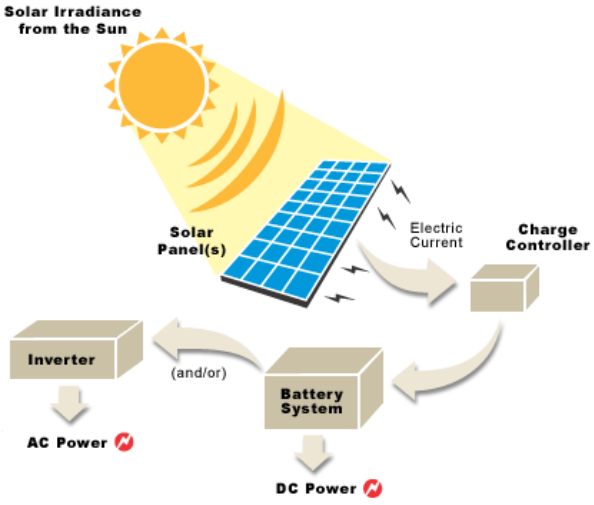


a) Provides an understanding of **chemical basis of biology** and can be described as the “Chemistry of Life and Medicine”

b) Our **chemical biologists and medicinal chemists** will also develop the next generation of medicines and vaccines.

Chemistry with Environmental & Sustainable Chemistry



Environmental & Sustainable chemists:

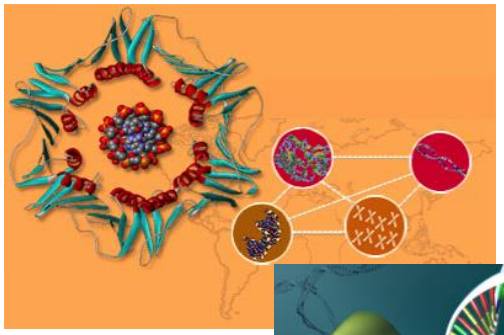
a) measure and **minimise** the detrimental effects of industrial processes on the environment

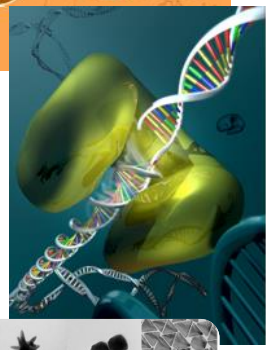
b) use **sustainable** resources to drive our transport, energy and production sectors without decreasing our living standards.

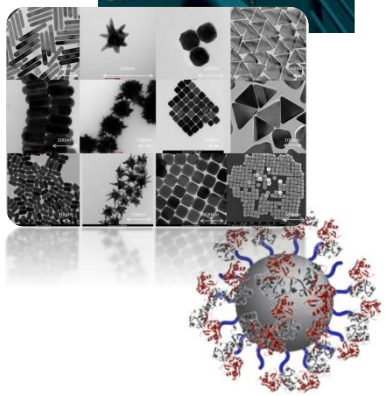
Chemistry with Biophysical Chemistry

Nanotechnologies are utilised in biological systems, where thousands of chemical transformations take place in a well controlled and environmentally friendly manner, and in a tiny space (biological cells).

Study of the
molecular principles
of the functioning of life with
their **applications in modern technologies**







Biophysical chemists have:

a) knowledge of advanced chemistry, molecular principles of organization and functioning of living matter

b) the skills in the applications of these principles in biomedical, biotechnological, pharmaceutical, food and other related industries.

Destination Chemistry – 2nd Year

BSc Chemistry

- CHEM20080 Basis of Physical Chemistry
- CHEM20040 Organic Chemistry Level 2
- CHEM20120 Physical Chemistry Level 2
- CHEM20100 Basis of Inorganic Chemistry
- CHEM20140 Introductory Transition Metal Chemistry

BSc Medicinal Chemistry and Chemical Biology

- CHEM20250 MedChem and ChemBio (level 2)

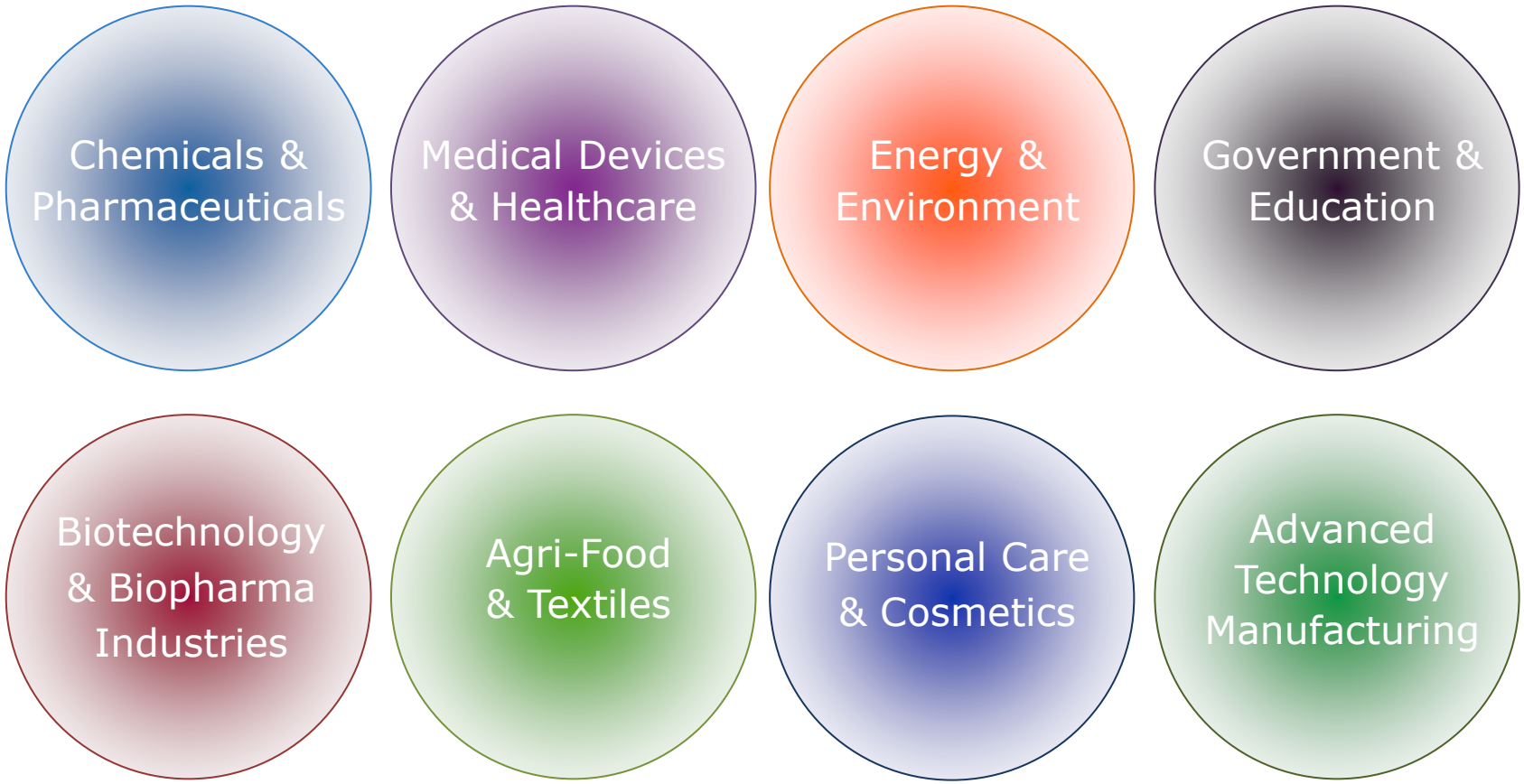
BSc Chemistry with Environmental & Sustainable Chemistry

- CHEM20110 Env & Sustainable Chem.

Chemistry with Biophysical Chemistry

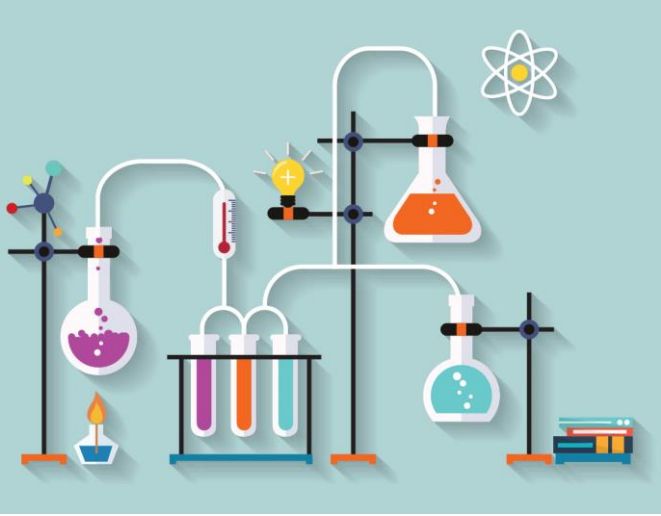
- CHEM20030 Introductory Transition Metal Chemistry

Chemistry opens doors and closes none!!
Wide rang of career opportunities?



Huge Opportunities

Meeting the world's challenges one molecule at a time



UCD DUBLIN

Chemistry

Questions susan.quinn@ucd.ie

Ask your lecturers and talk to stage 4 students!!