

Institute of Chemical Engineering Sciences FORTH/ICE-HT, Patras



PERSONNEL

Researchers

12

Collaborating Faculty Members

21

Research Associates (with PhD)

30

Graduate Students

45

Visiting Faculty Members

14

Technical Personnel

7

Administrative personnel

10

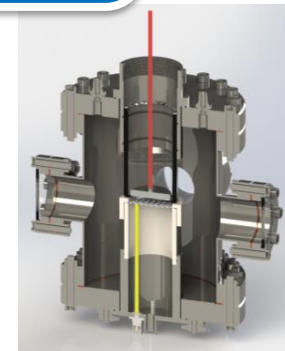
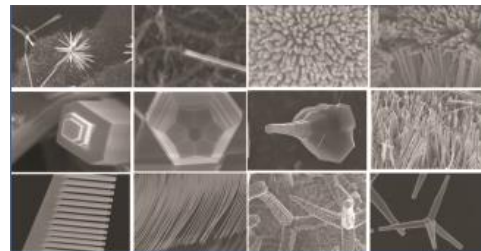
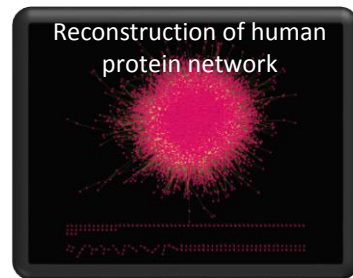
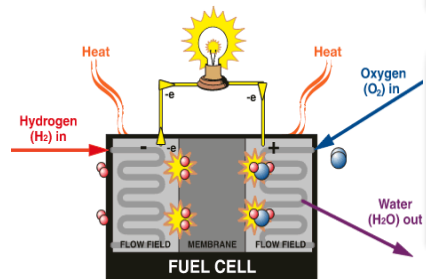
TOTAL: ~140

Research Areas

Nanotechnology / Advanced Materials

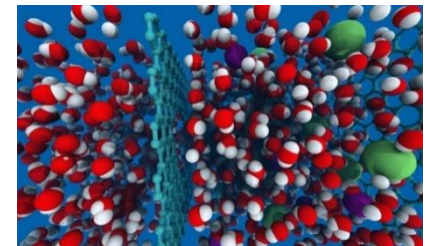
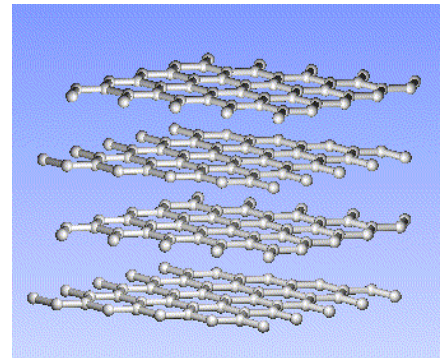
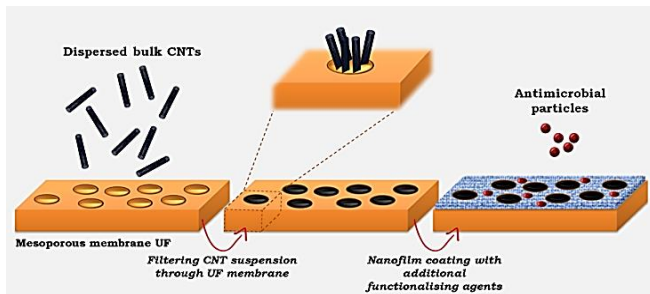
Energy / Environment

Biosciences / Biotechnology



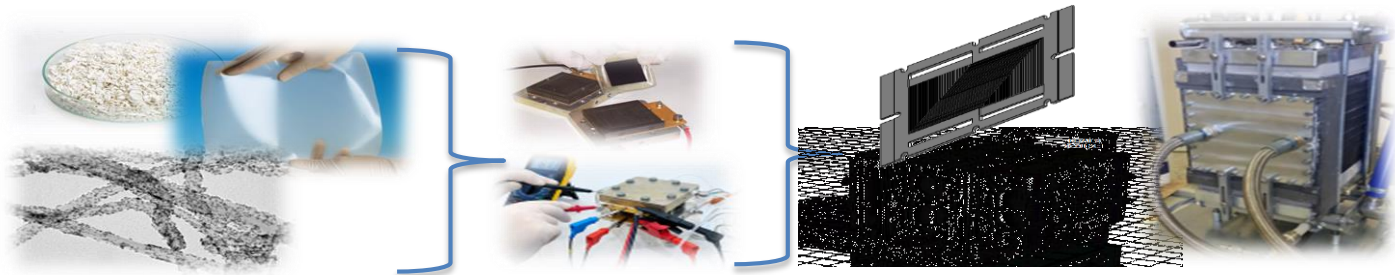
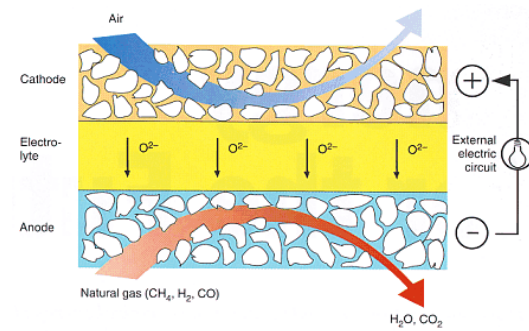
NANOTECHNOLOGY / ADVANCED MATERIALS

- Design at the nanoscale
- Experimental and computational techniques
- Synthesis and modification of materials
- Novel characterization techniques
- Upscaling
- Devices
- Applications



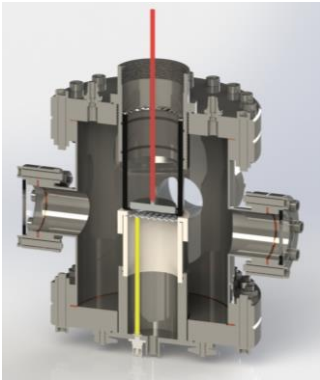
ENERGY

- Fuel cells
- Flexible, hybrid materials for photovoltaic applications
- Energy storage in Li batteries
- Hydrogen technologies
- Biofuels
- Hydrocarbons



ENVIRONMENT

- Atmospheric pollution
- Liquid and solid waste management
- Recovery of valuable materials and energy from wastes
- Soil pollution and remediation
- Protection of cultural heritage monuments

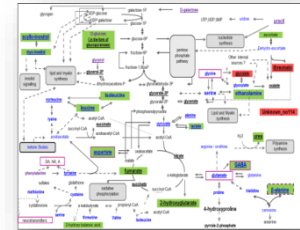


Dielectric-Barrier-Discharge (DBD) reactor

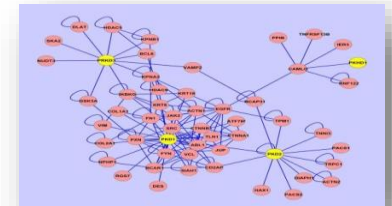


BIOSCIENCES/BIOTECHNOLOGY

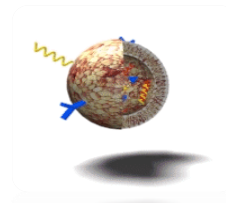
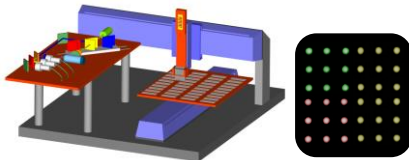
- Metabolic Engineering and Systems Biology
- Molecular Medicine & Functional Genetics
- Drug Nanoformulations
- Nanotoxicity
- Biomedical applications
- Nanoparticle-based biosensors for visual detection of DNA/RNA
- Microanalytical Chips / Microfluidic Devices



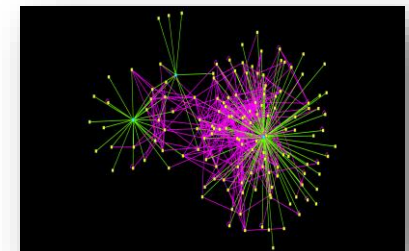
Metabolic Networks



Disease Networks



Liposomes with active molecules attached



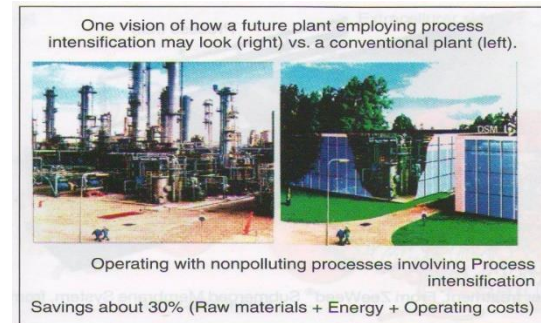
Protein Networks

Emerging Areas / Perspectives

- New activities at the interface between scientific disciplines
 - Advanced materials with energy and environmental applications
 - Nanotechnology and biotechnology for medical and food applications
 - Computational approaches in biology, medicine, nanomaterials

will strengthen the Institute position within EC Key Enabling Technologies

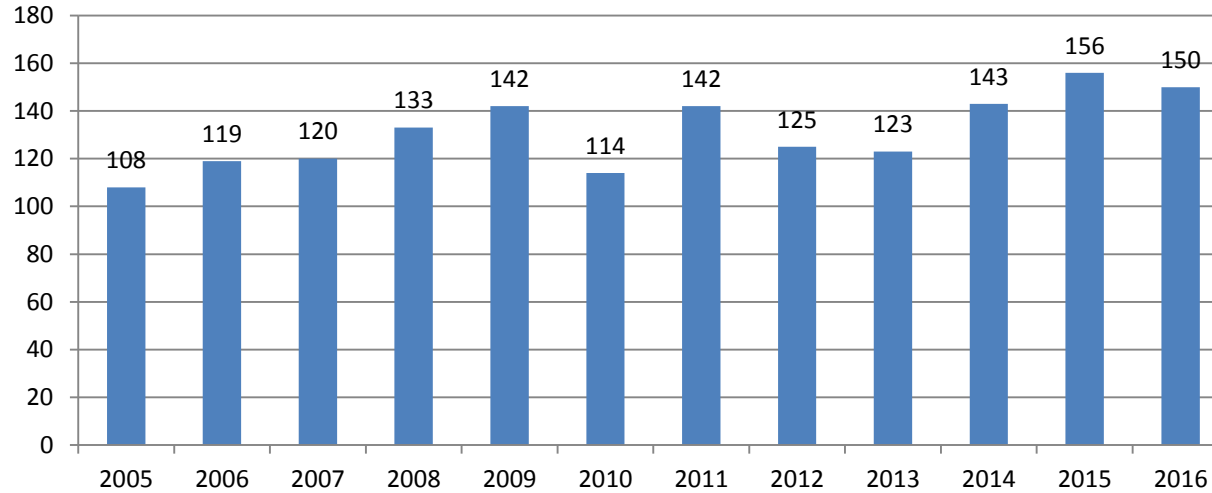
- Integration of engineering principles into material and biological sciences to reach process and application scales
- Process Intensification Strategy



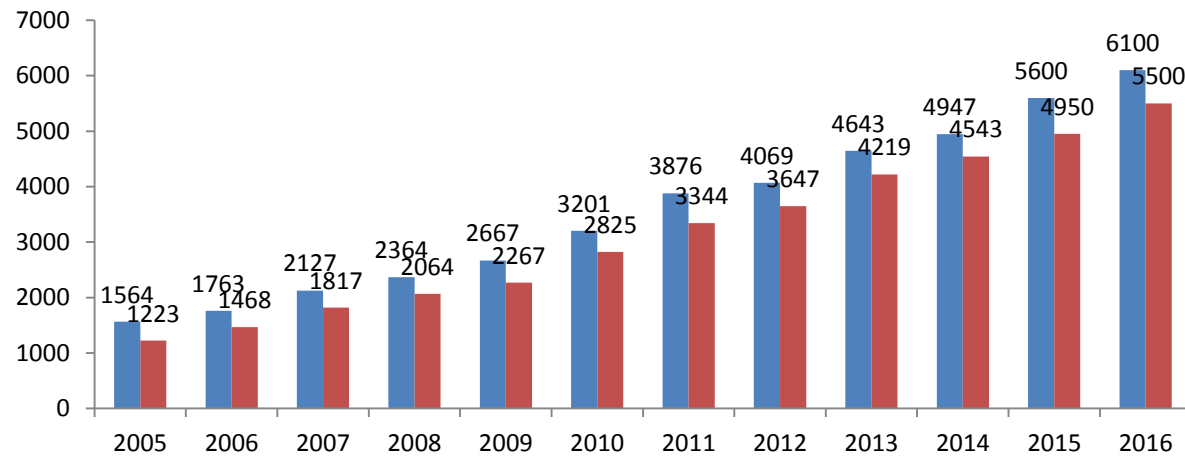
2016: External Advisory Committee

(from J-C Charpentier, Ind. Eng. Chem. Res., 46, 11, 2007)

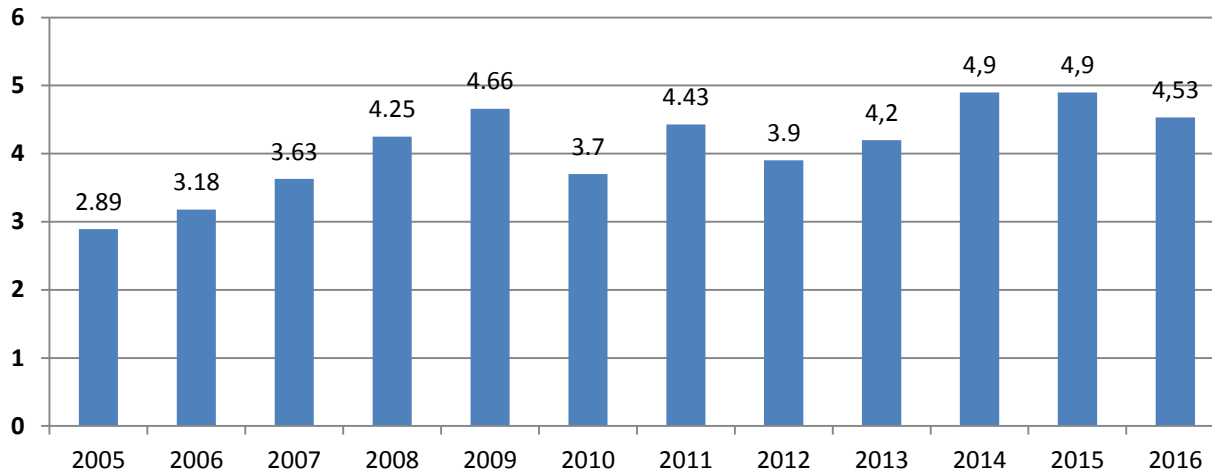
FORTH/ICE-HT Publications



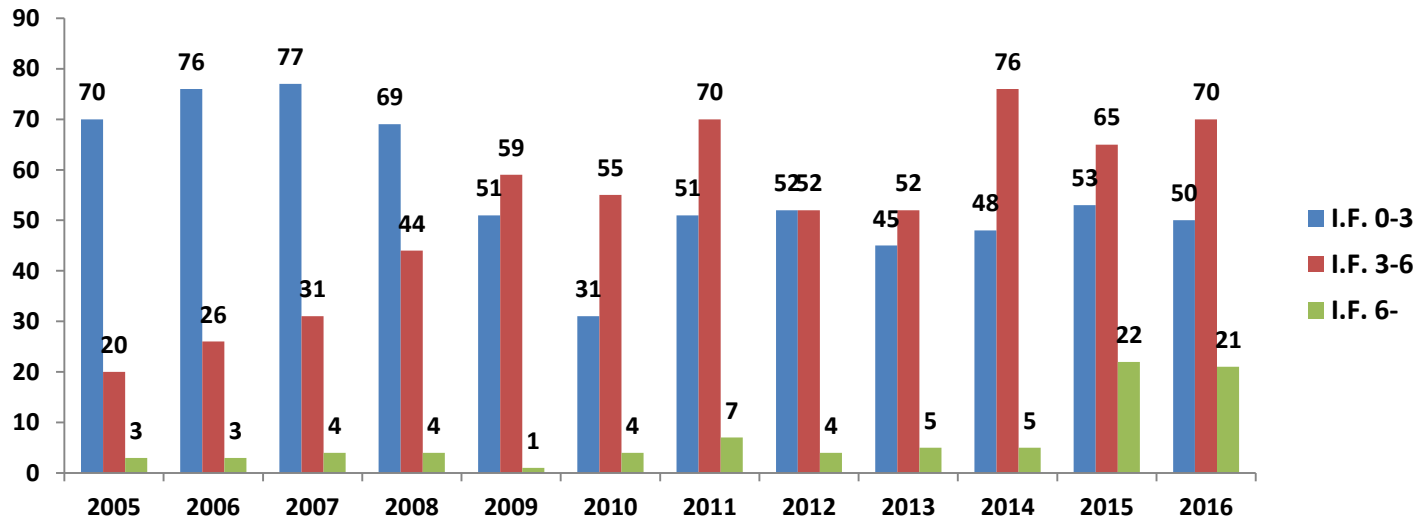
FORTH/ICE-HT Citations



Average Number of Publications per Capita



Distribution of ICE-HT publications over different impact factor zones



FORTH/ICE-HT Assessment by External Committees

| No. | Year |
|-----|-------|
| 1 | 1987* |
| 2 | 1995 |
| 3 | 2000 |
| 4 | 2005 |
| 5 | 2014 |

* Following initiative by the Institute

ERC Grants

| | TITLE | SHORT TITLE | TYPE | P.I. | STARTING DATE | ENDING DATE | BUDGET |
|---|--|-----------------|--------------|-------------|---------------|-------------|-----------|
| 1 | Atmospheric Organic Particulate Matter, Air Quality and Climate Change Studies | ATMOPACS | Advanced | S. Pandis | 1/1/11 | 31/12/15 | 2.496.000 |
| 2 | Tailoring Graphene to Withstand Large Deformations | TAILOR GRAPHENE | Advanced | C. Galiotis | 1/6/13 | 31/5/18 | 2.025.600 |
| 3 | Pyrogenic TRansformations Affecting Climate and Health | PyroTRACH | Consolidator | A. Nenes | 1/6/17 | 31/5/22 | 1.999.832 |
| 4 | Graphene as Effective Anti-fading Agent for the Protection of Artworks | GRAPHENART | PoC | C. Galiotis | 1/10/17 | 31/3/19 | 149.875 |

Recent Marie-Curie Grants

| | TITLE | SHORT TITLE | TYPE | P.I. | STARTING DATE | ENDING DATE | BUDGET |
|---|---|-------------|------|----------------|---------------|-------------|---------|
| 1 | Accelerate the Development Chain of Nanostructured Polymers | TheLink | ITN | V. Burganos | 1/11/14 | 31/10/18 | 484.773 |
| 2 | Solid lubrication for emerging engineering applications | SOLUTION | ITN | S. Yannopoulos | 1/2/17 | 31/1/21 | 242.386 |

Networks / Non-for profit organizations

FCH JU

Fuel Cells and Hydrogen Joint Undertaking



EMH

European Membrane House



ECNP

European Centre for Nanostructured Polymers S.c.a.r.l.



A.SPIRE

Sustainable Process Industry through Resource and Energy Efficiency



BBI

BioBased Industries Consortium



NanoMed

European Technology Platform in NanoMedicine



Initiatives and Partnership for Innovation

- Patras Science Park
- Regional Council for Research and Innovation
- Coalition for Entrepreneurship and Development in Western Greece
 - Executive Committee
- Agrofood Cooperation for Western Greece
- SEV PDE
- Praxi Help Forward
- Seminars and Meetings on Patents, IPR, Startups

EDUCATION AND TRAINING

- Graduate thesis advisorship promoted
- Organization of nearly ~600 seminars (~60 in 2014-17)
- Collaboration agreement between FORTH and U. Patras
- Collaboration agreement between Institute and UP-ChE Dept
- Networking activities
- Participation of Institute in Undergraduate and Graduate Student events
- Organization of conferences
- Inter-regional training initiatives

MAIN INSTITUTE ASSETS

- High quality researchers
- Adaptability – flexibility of researchers to new challenges
- High quality publications and scientific visibility
- Availability and functionality of large infrastructures for common use
- Collaboration with other FORTH Institutes

Thank you!