

**ASSOCIATIE  
UNIVERSITEIT GENT**

# **Polymer Science & Technology**

*Research Entity*

*[www.polymer.ugent.be](http://www.polymer.ugent.be)*



# Association research groups

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## Aim:

- ▶ To strengthen *multidisciplinary research*
  - ▶ To join *research potential*
  - ▶ To provide *visibility* toward industrial partners
- 
- 44 *association research groups* within AUGent

<http://www.polymer.UGent.be>



[Home](#)

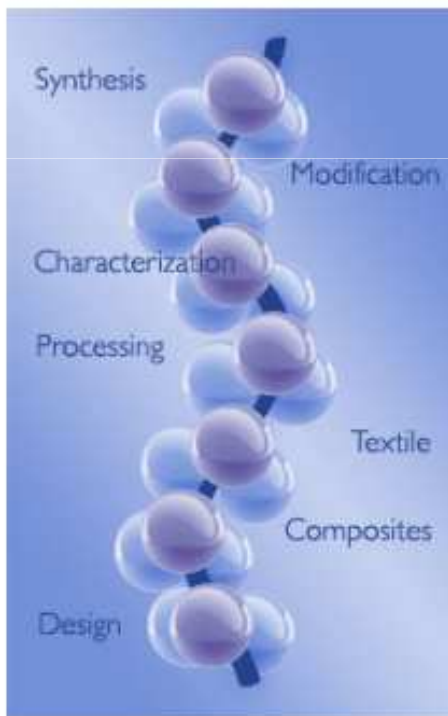
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## Polymer Science & Technology

Within the association of Ghent University, teams covering polymer research have joined forces in a unique centred research entity of "Polymer Science & Technology".

International expertise is present on all facets of polymer research. Starting with the synthesis of polymers, thorough characterization, processing into plastics, textiles or composites and finally design into a new product.

Our primary objective is to offer multi-disciplinary solutions to the polymer community and industry.

### News

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**2010-2011: Post-academic course: Food Packaging. For Program and Subscription form [click here](#)**

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**17.12.10: PBM Lecture "The homeoprotein Otx2 promotes the survival of injured adult retinal ganglion cells and protects against the excitotoxic loss of visual acuity in vivo" by Dr. K Moya @ UGent**

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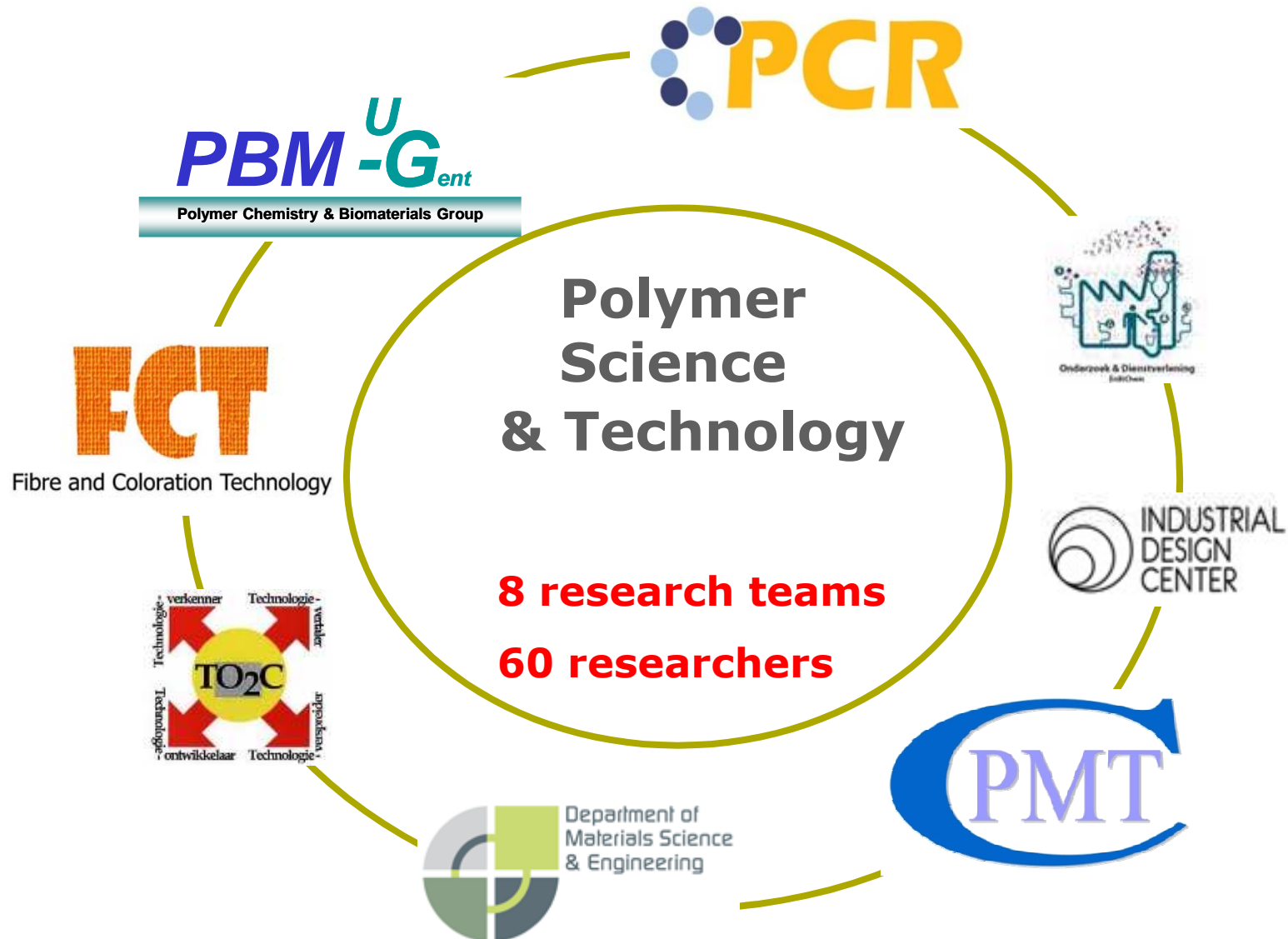
**16.12.10: Lecture: "Ontwikkelingen in Coating en Lamineren" by Prof. Dr. Marc Van Parys @ Hogeschool Gent. [Click here for the invitation](#)**

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08.12.10: PCR Lecture on Dendritic Polymers - Academia meets Industry by Dr. Bernd Bruchmann @ UGent

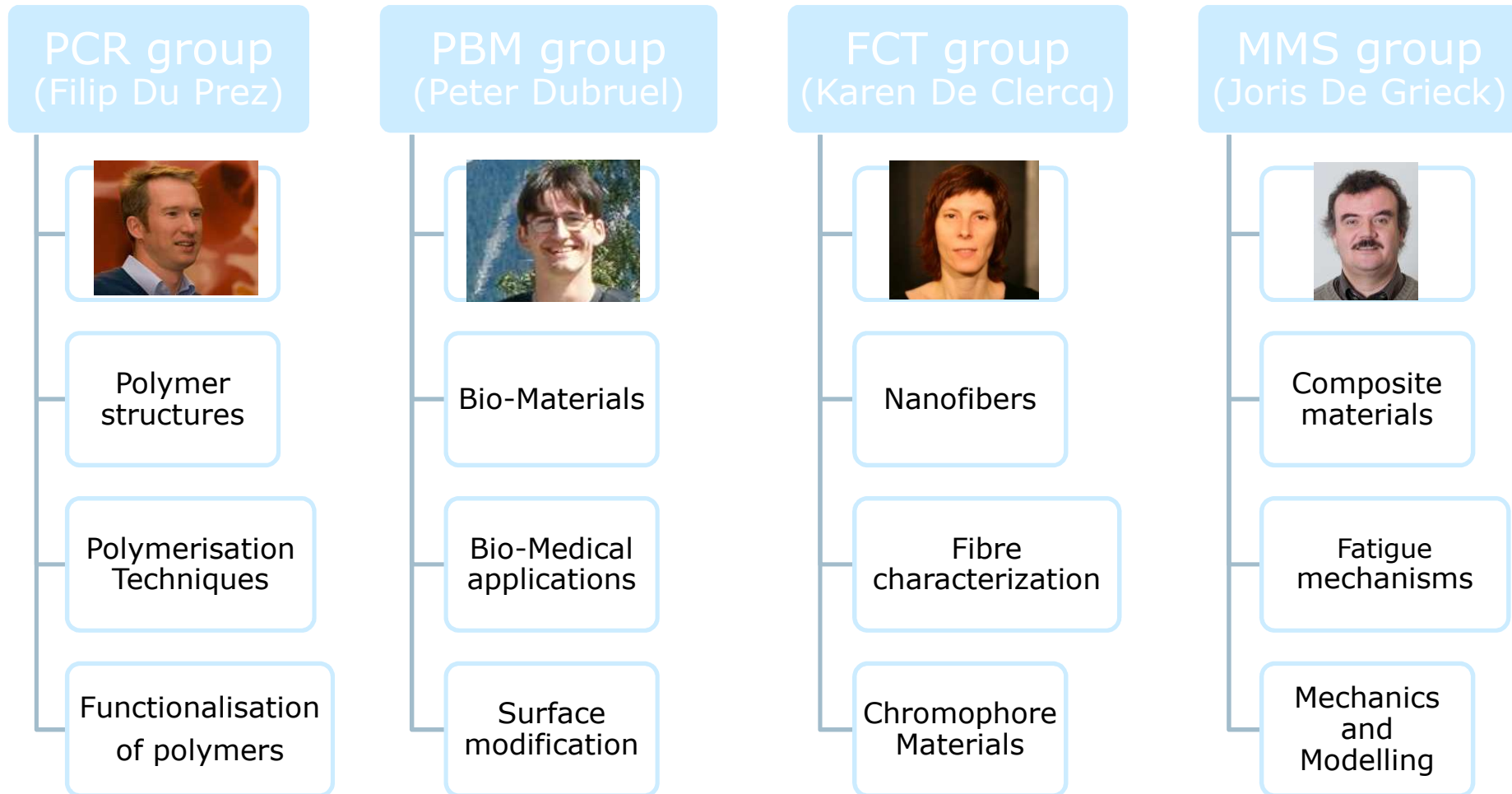
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17.11.10: Workshop Innovatie in kunststoffen: Blokkade of accelerator voor een groene economie? @ City Hall Ghent. [Click here for the invitation](#)

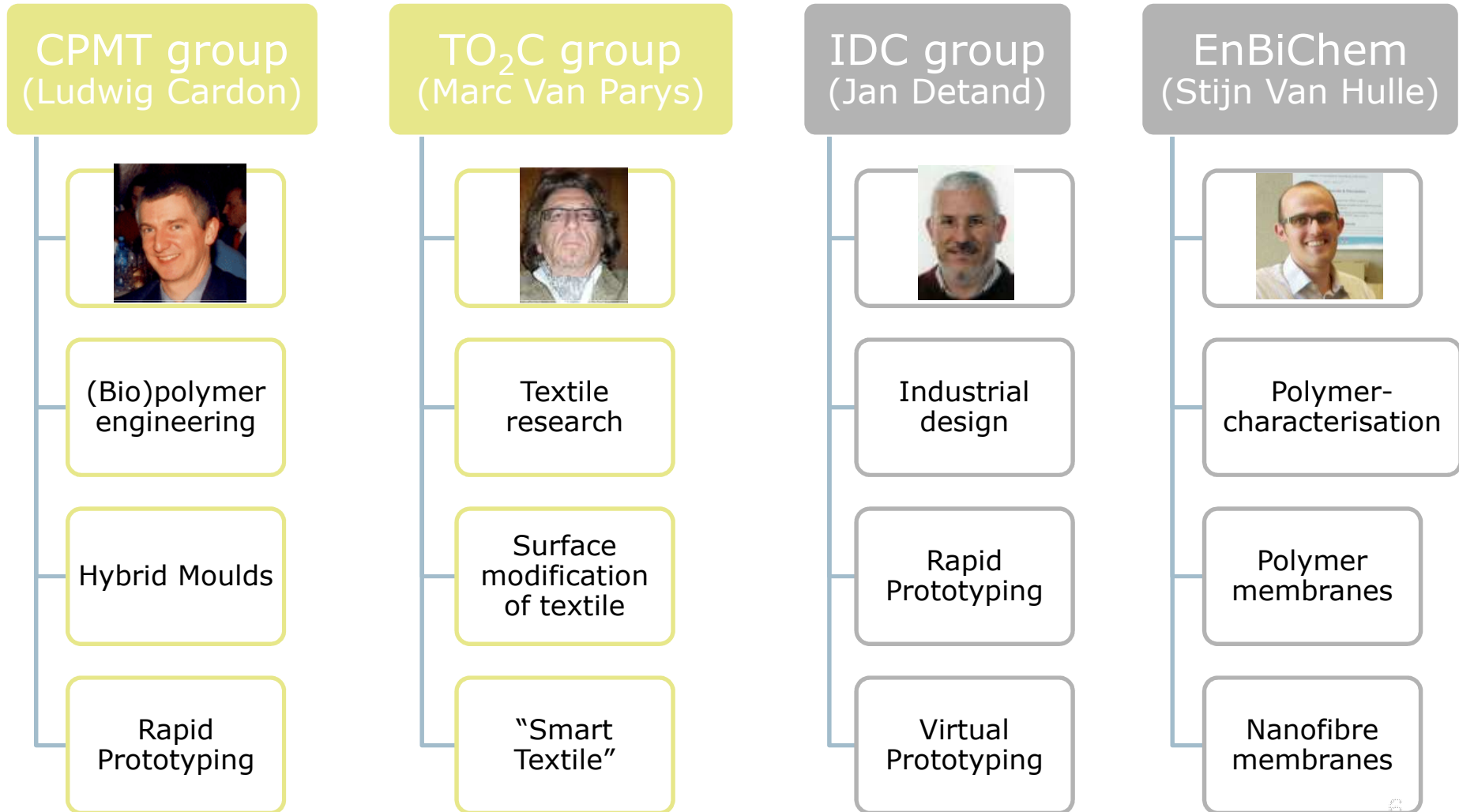


# Competences 'Polymer Science & Technology'

## UGent-partners



# Partners **Hogent** - HOWEST



# Industrial Projects

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## Research projects

- a) Bilateral industrial research projects (4)
- b) IWT-projects
  - i. TETRA (4)
  - ii. O&O (4)
  - iii. SBO (5)
  - iv. Collective Research (3)
  - v. KMO research (12)
- c) EU-projects (6)
  - i. FP6 (Leonardo da Vinci (2), collaborative projects (2))
  - ii. FP7 (collaborative (3))
- d) SIM – SHE + Nanoforce



# Services offered to industry:

Molecular Weight Analysis



Physico-chemical Analysis



Mechanical Testing



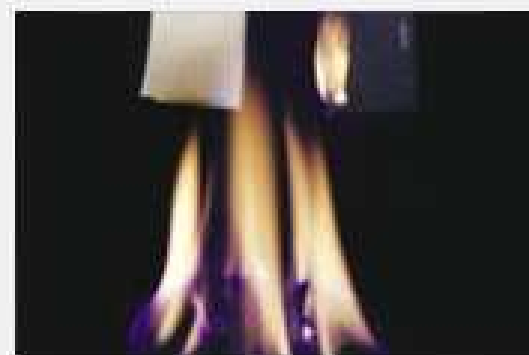
Surface Analysis



Structure Analysis



Other





# CHEMTECH

AUGent Technology Coordination

- Patent portfolio
- Industrial collaborations
- Spin-off opportunities



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# Centre for Polymer & Material Technologies



**University College Ghent**

Faculty of Applied Engineering Sciences INWE  
Departments of electromechanics & chemistry

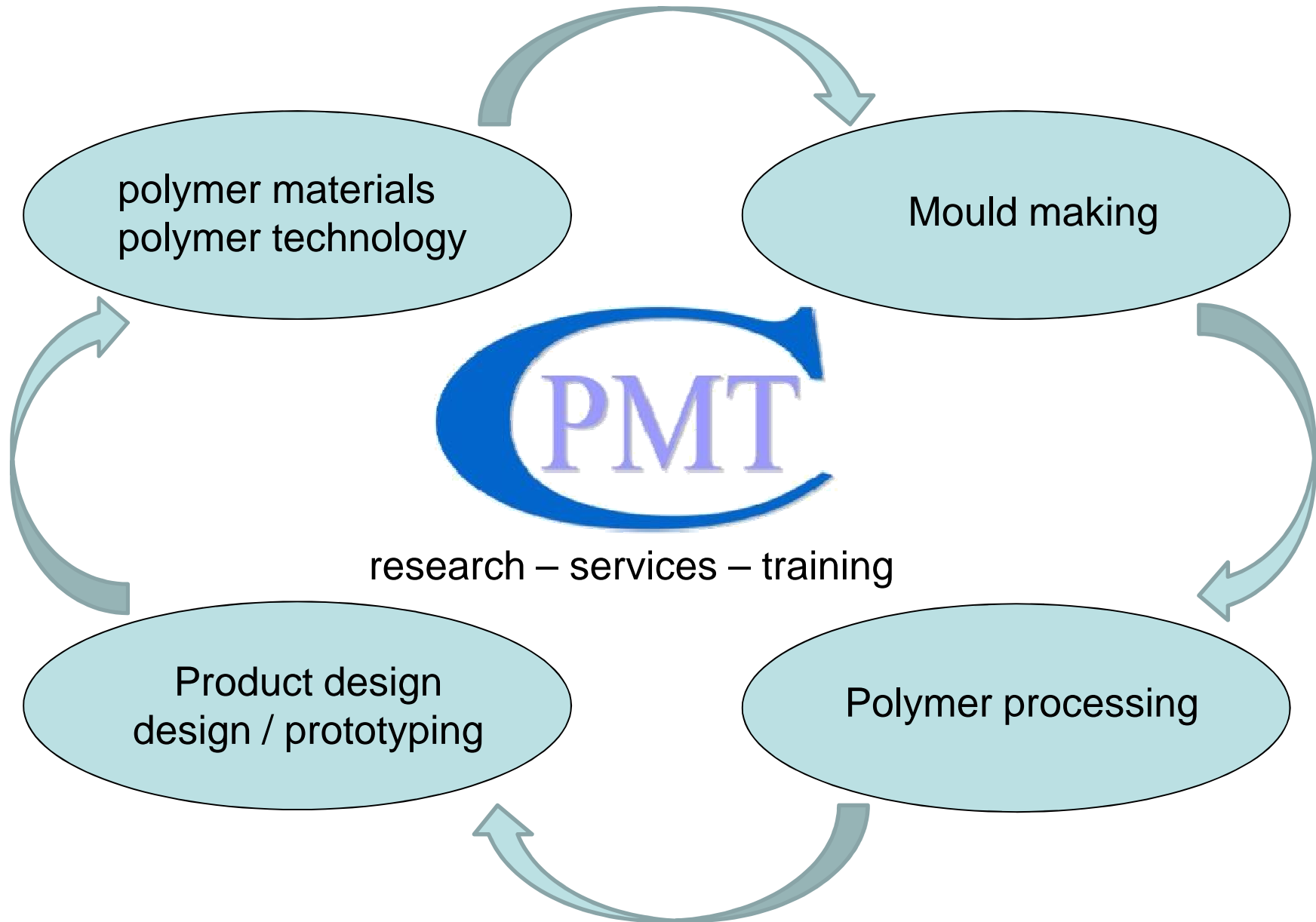
Schoonmeersstraat 52  
B-9000 Gent – Belgium

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[www.cpmt.eu](http://www.cpmt.eu)

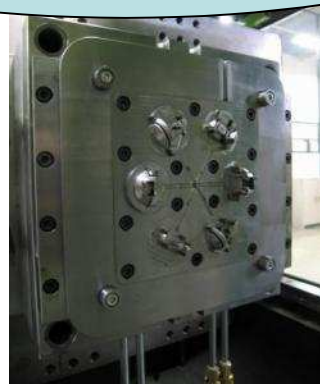
[www.pmiconference.eu](http://www.pmiconference.eu)

<http://polymer.ugent.be>



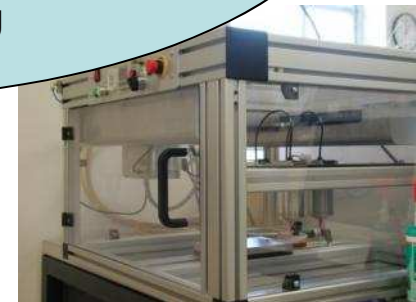
## Education

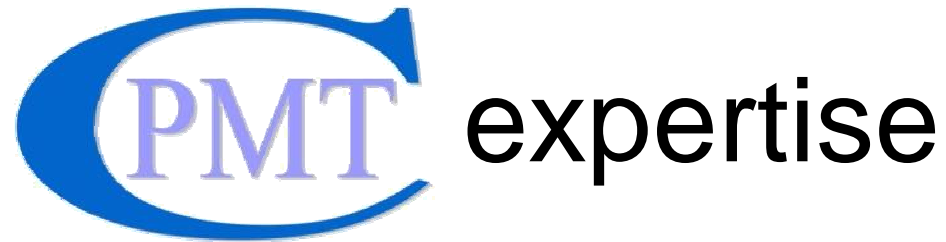
- Faculty of Applied Engineering Sciences
- BSc & MSc levels
- Specialization polymer technology (> 55 years - 1955)



## Research (> 40 years - 1970)

- Physical and physical-chemical analyses of polymers & textile materials/metals
- Polymer processing
- Mould making– hybrid moulds
- 3D Flow Simulation (Moldex3D)
- Biopolymers & biomedical applications
- Rapid Prototyping & Tooling






- Physical and physical-chemical analyses of polymers & textile materials/metals
- Polymer processing
- Mould making & hybrid mould
- 3D Flow Simulation (Moldex3D)
- Rheology/ Sensor analyses
- Biopolymers & biomedical applications
- Rapid Prototyping & Tooling



# Actual projects

- EU Leonardo project E-learning Hybrid Moulds
- IWT - TETRA project micro processing & mould making
- IWT - TETRA project processing & mould making of biobased polymers
- IWT - TETRA project development of decubitus foams
- IWT - TIS project hybrid mould making technologies
- IWT – TAD project packaging for food applications « Pack4Food consortium»
- IWT – CO project biobased packaging materials for food packaging
- SBO « Direct Rapid Manufacturing of Metal and Ceramic products »
- IWT KMO Innovation « voorgestekte PP vezels en toepassingen voor dienbladen »
- IWT KMO Innovation « vezelversterkte gerecycleerde polyolefin materialen voor intrusie »
- IWT KMO Innovation « innovatieve polymeer recipiënten voor celcultuur-applicaties»
- Several internal projects:
  - Processing of biobased polymers via 3D Scaffold technology
  - Development and modelling of nanofilled PP/PE

The logo for PMT Equipment features a large, stylized blue letter 'C' that encircles the letters 'PMT' in a light blue, serif font. To the right of this graphic, the word 'Equipment' is written in a large, black, sans-serif font.

# PMT Equipment


- Physical analyses
  - Density measurements
  - Humidity analysis
  - Colour analysis
  - VICAT-HDT
  - ...
- Mechanical analyses
  - dynamometers(static & dynamic)
  - Dart drop impact test
  - Tear test(Elmendorf)
  - Hardness
  - ...
- Physical-Chemical analyses
  - DSC (-180 up to 700 °C)
  - STA (DSC-TGA : Tk up to 1600 °C)
  - FTIR (Brucker)
  - Inherent viscosity (Ubbelohde)
  - ...



# Uitrusting

## Polymer processing and mould making

- Injection 9 - 28 - 80 Ton (Engel)
- Extrusion (foils, films and plates)(Brabender)
- Extrusion blow moulding (Bekum)
- Stretch blow moulding(Bekum)
- 2K-Co-screw low pressure injection & intrusion (Main)
- Compression forming (Bipel & Fontijne)
- Thermoforming (Illig)
- Single screw compounder (Axon)
- Twin screw compounder (Coperion)
- 3D Scaffold (Sys Eng)
- ...

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# PMT Equipment

- Process analyses ...
  - Rheology
  - MFI
  - 3D flow analysis Moldex3D
  - Sensor analyses
    - Temperature, pressure, forces, ... (Kistler)

More information:

