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Research & education since 1881





Research at ENSAIT

GEMTEX laboratory

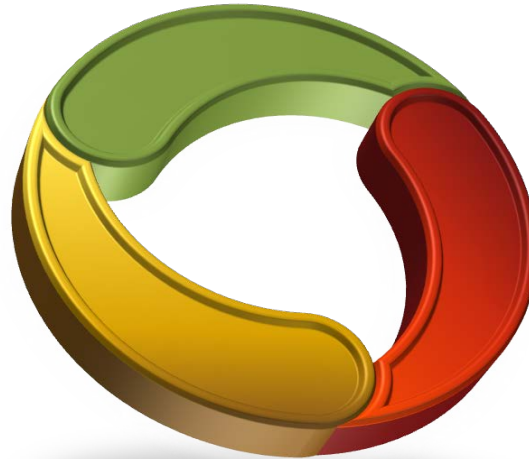
www.gemtex.fr

V. KONCAR

GEMTEX Scientific Structure

Group Multifunctional
Textiles and Processes -
MTP

Group Human
Centered Design - HCD



Group Mechanics
Textile Composites -
MTC

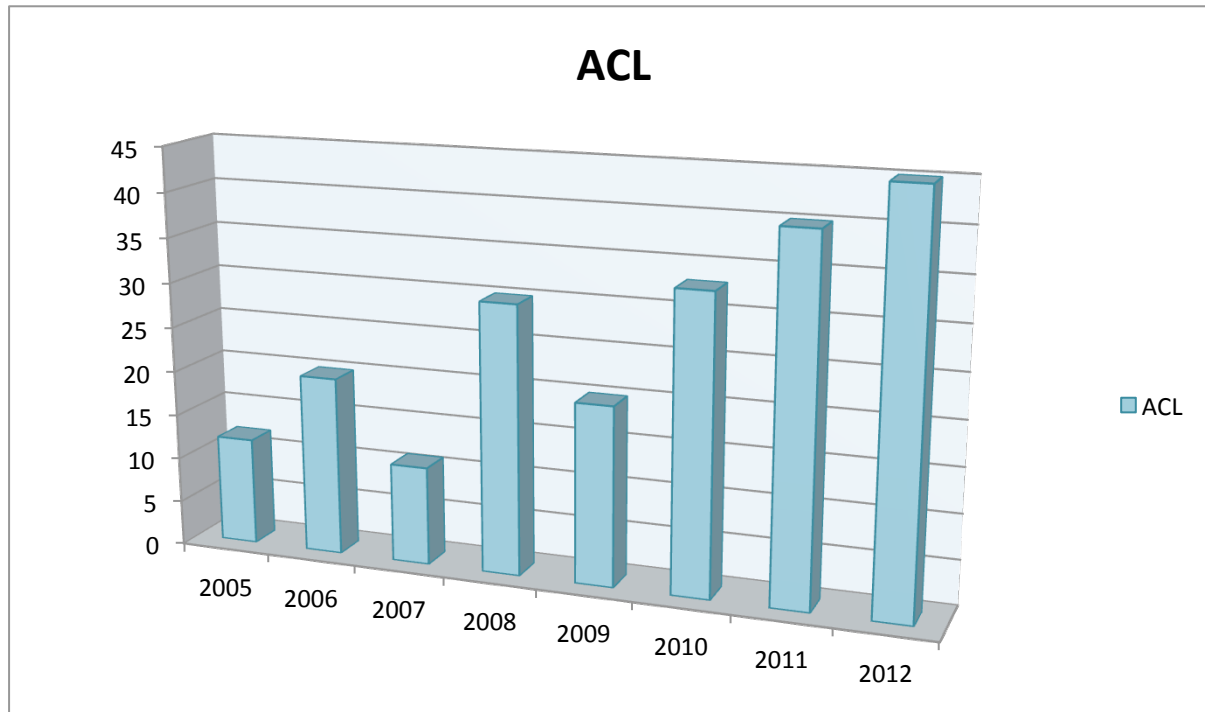
ONE RESEARCH TEAM - TEXTILES ADVANCED MATERIALS

1. Présentation de l'unité

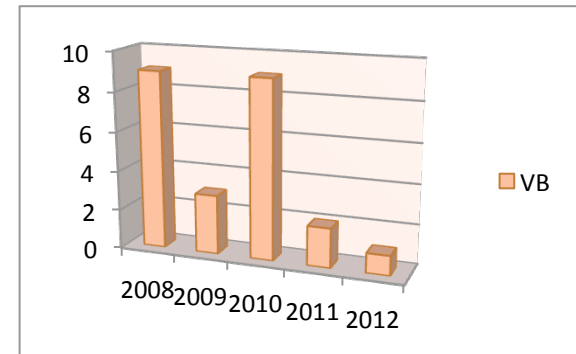
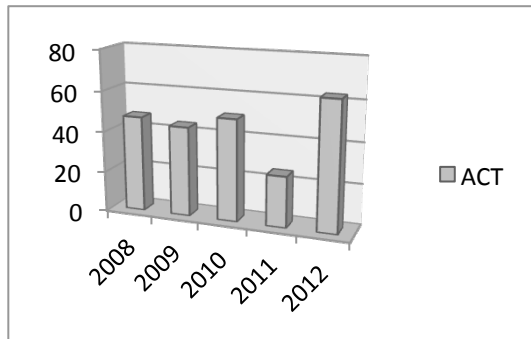
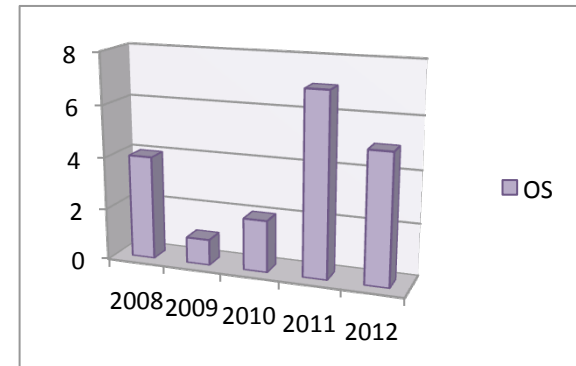
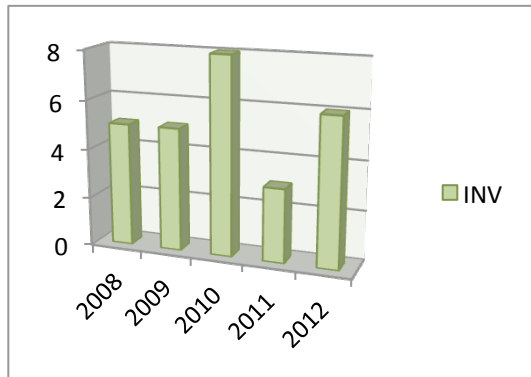
Actions réalisées pendant la période 2009 - 2013

Action 1 :

La production scientifique, en termes de qualité et de quantité, en tenant compte de l'équilibre des thématiques de recherche, doit être consolidée et améliorée.

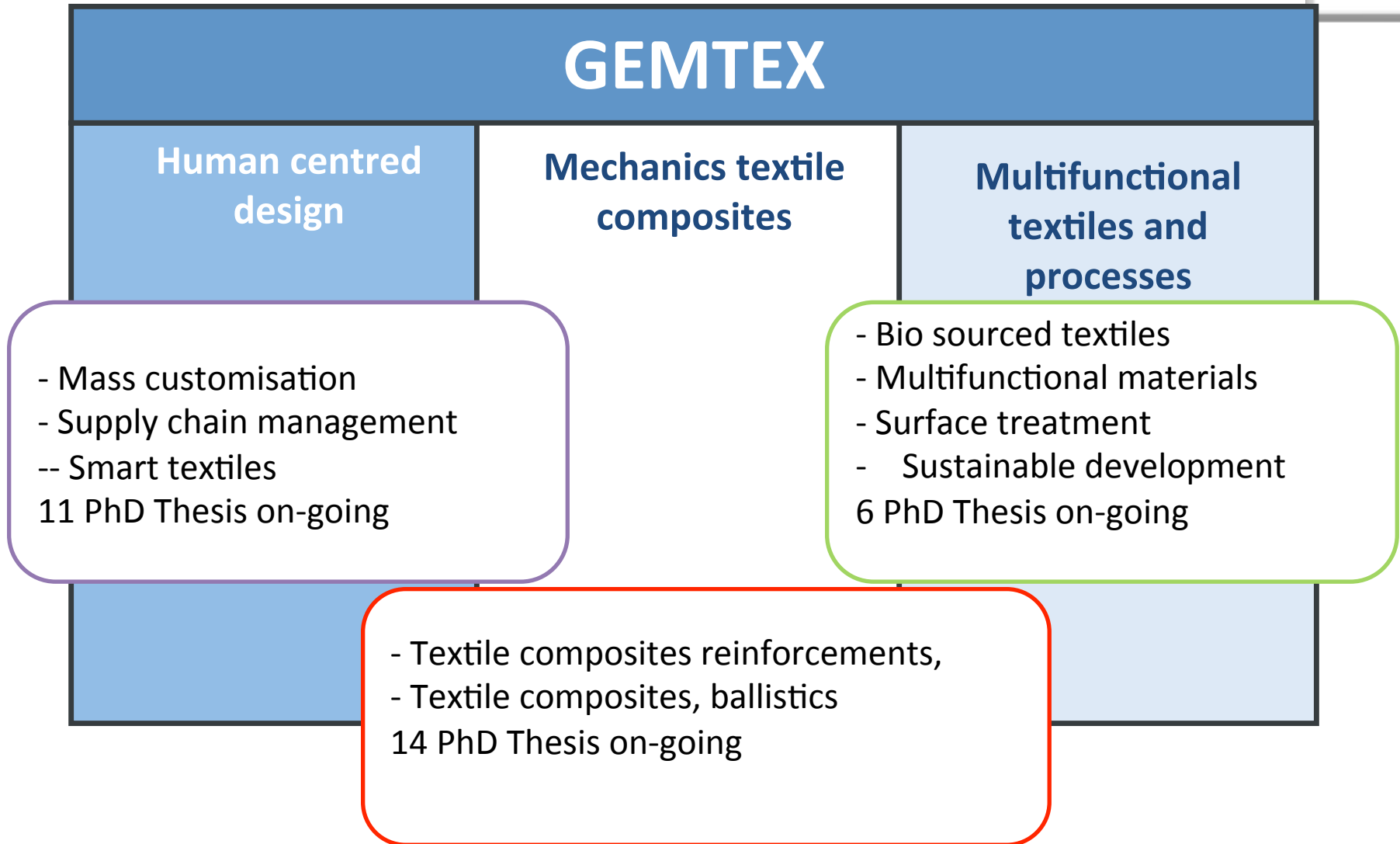


1. Présentation de l'unité



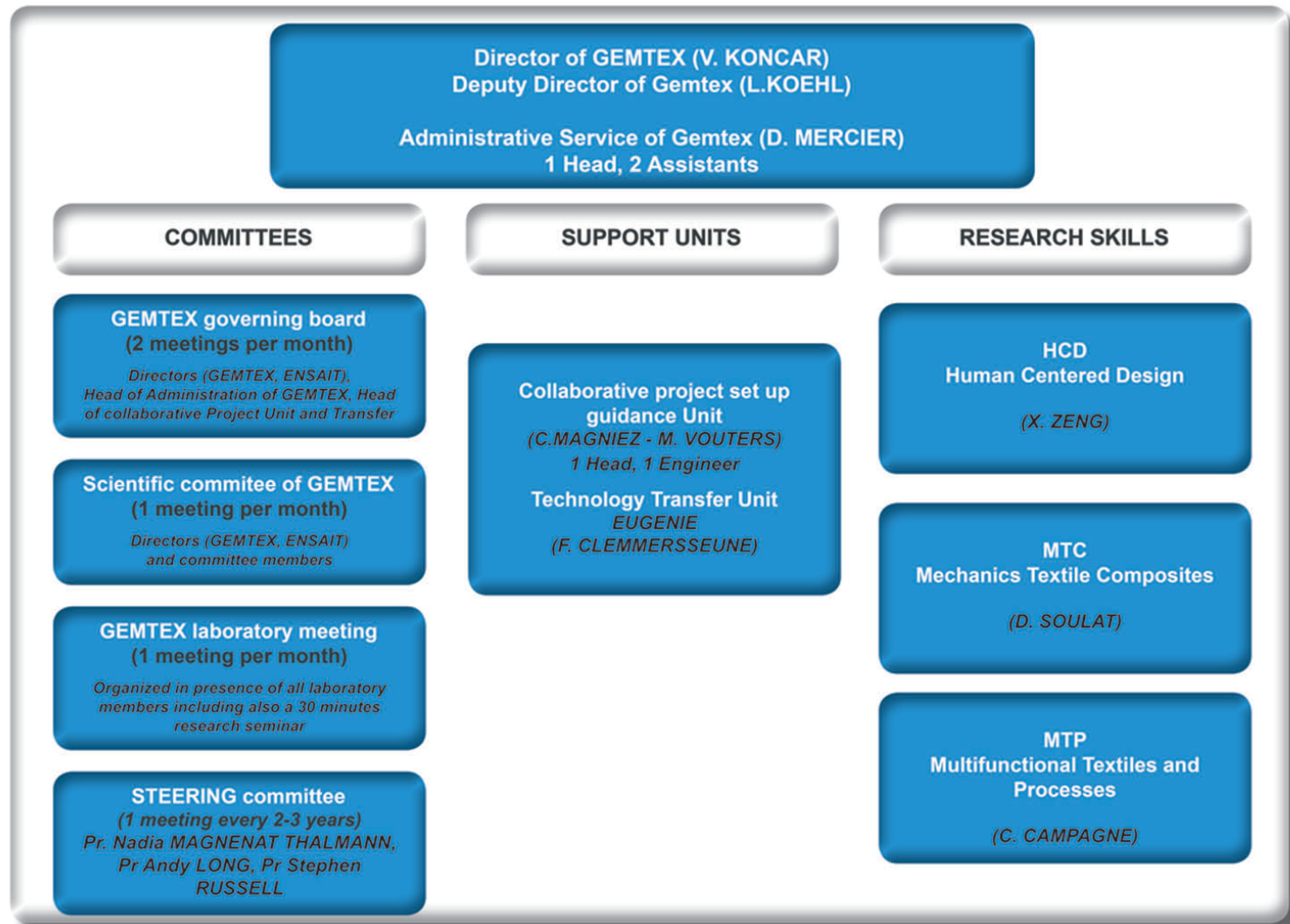
Bilan quantitatif des publications de l'entité. 206 ACL, 17 ACLN, 6 OV, 27 OS, 263 ACT, 74 COM, 48 AFF, 31 INV, 25 VB

GEMTEX Scientific Structure



1. Présentation de l'unité

Action 4 : Mise en place de la gestion participative au GEMTEX



At a glance

8 Full professors
19 Associate professors
6 Post doc researchers
31 PhD students
4 Engineers
3 Technicians
9 Administrative staff
3 Members from HEI

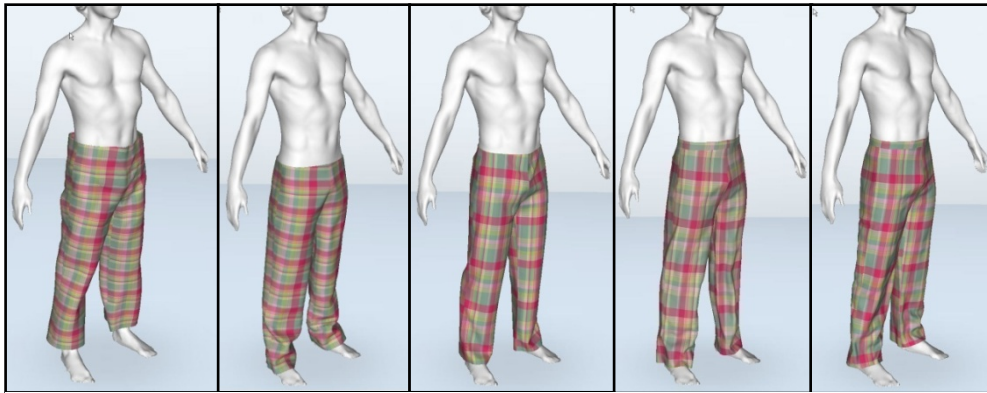
TOTAL : 81 members

Annual Turnover : 5 M€

Fields of application : Aeronautics, Automotive, Trains,
Medical, Sport, Leisure, Building, Apparel,...

Research topics

- Mass customization, virtual prototyping



Différentes étapes de validation dynamique du modèle en 3D



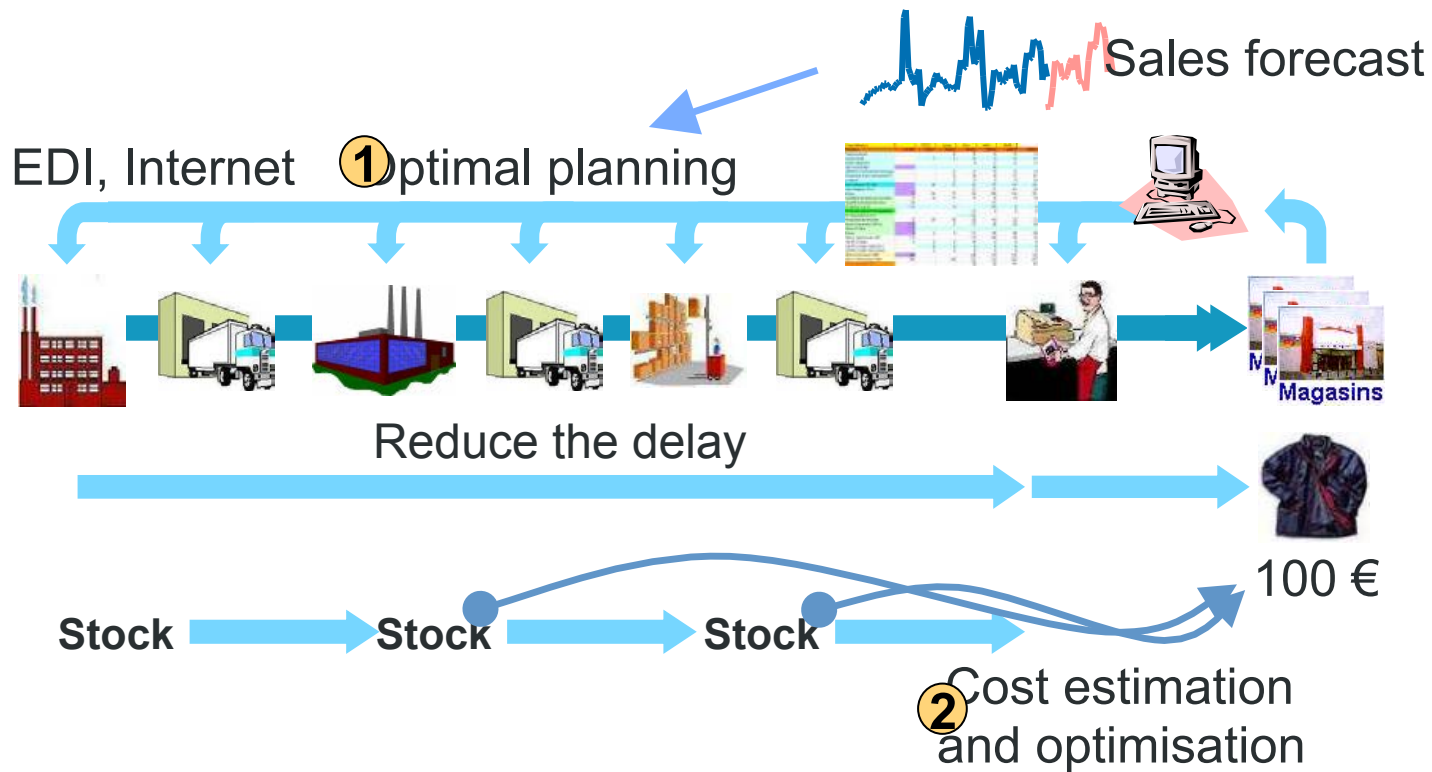
Research topics

- Mass customisation, Virtual shop



Research topics

Supply chain management & optimisation



Research topics

Textile comfort, quality assessment, perception ...

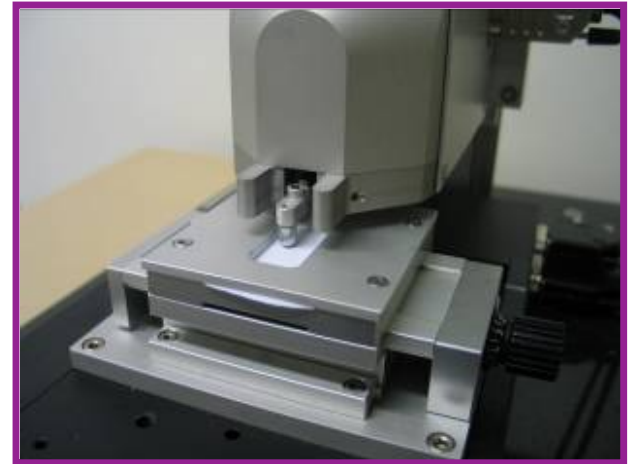
Hand



Material



Objective measurement



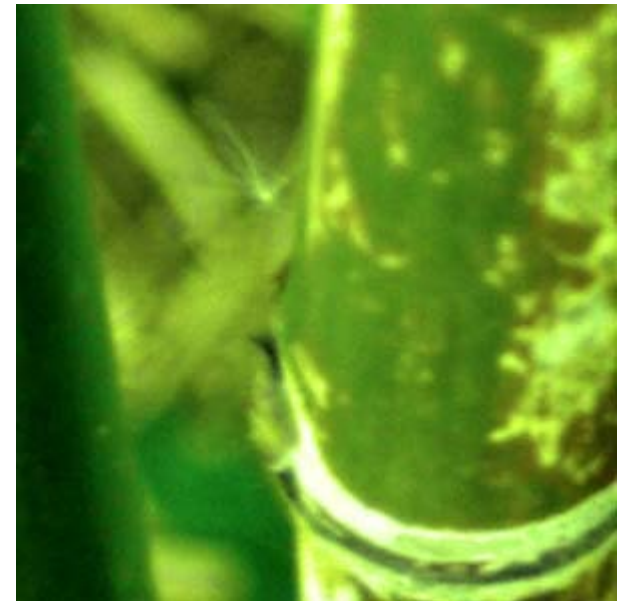
Research topics

Textile materials from bio resources : processable synthetic polymers from bio resources, natural fibres



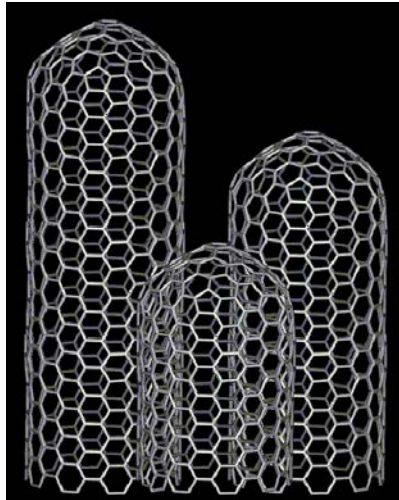
PLA

Life cycle analysis, environmental impact

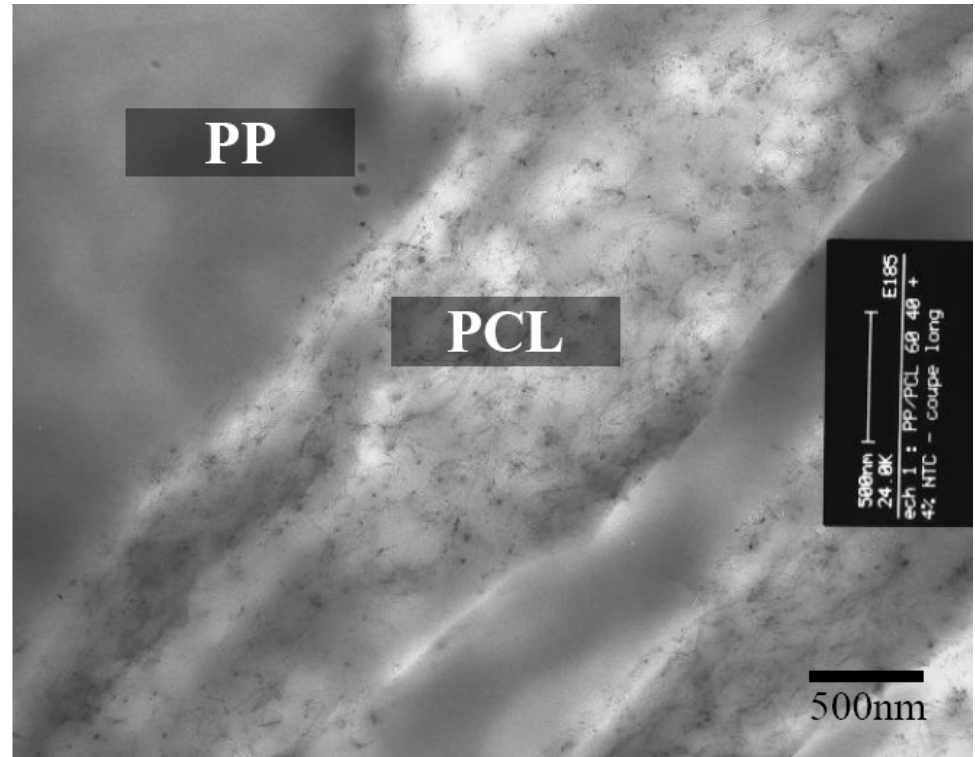


Research topics

- Multifunctional and communicative textiles, high added value textile structures, flexible sensors & actuators, nanotech applied to textiles



CNT

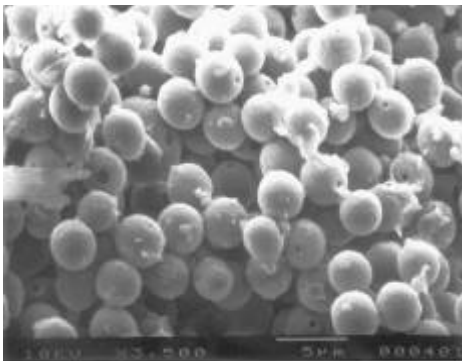
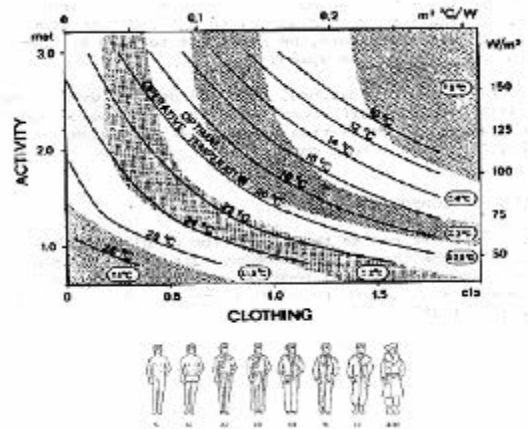
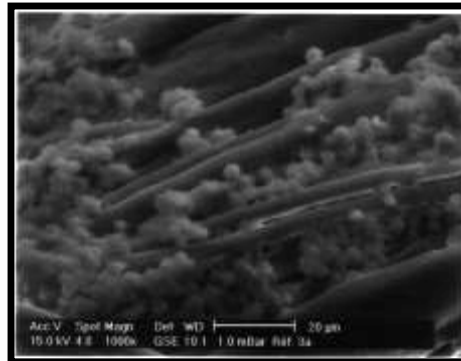
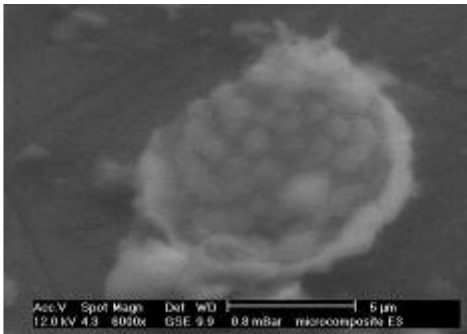


PP/PCL+4%NTC 60/40

Figure 6: TEM analyses of longitudinal section

Research topics

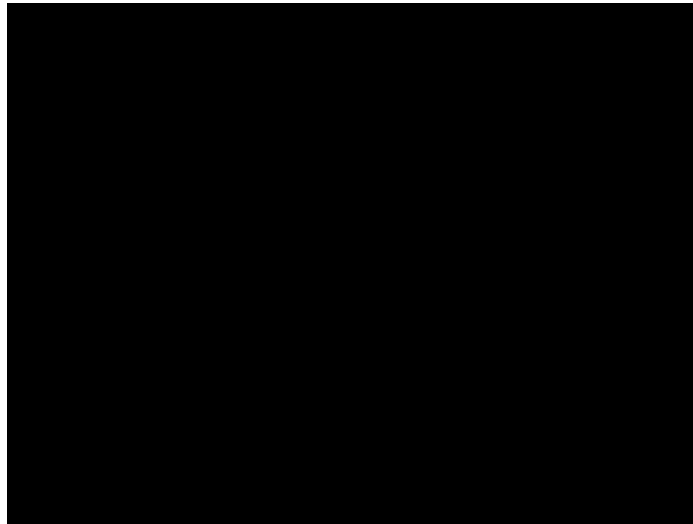
Surface treatment, Micro capsules, controlled drug release ...



Research topics

Smart textiles

OF Flexible screens



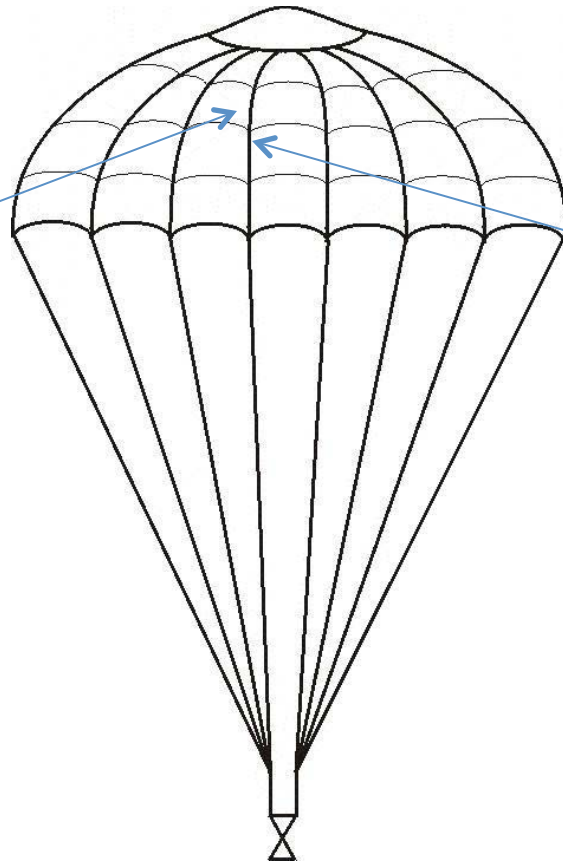
**ELECTROCHROMIC
Flexible screens**

Research topics

- Smart textiles, flexible sensors for aeronautics



Textile sensor



Miniaturized card for data acquisition & processing

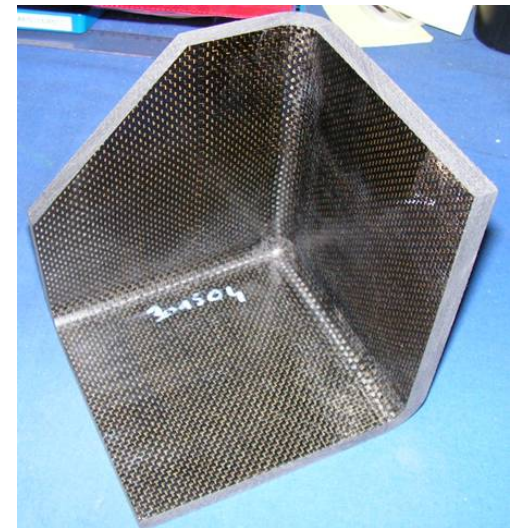
Research topics

Textile composites: **reinforcement**, ballistic, energy

Wing box



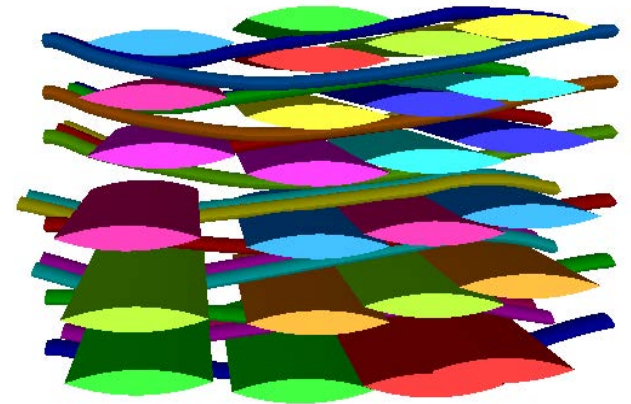
Box corner



Research topics

Groups **IDM - ATM** – common topics

Textile composites: reinforcement, **ballistic**, energy



3D weaving



Research topics

Textile composites: reinforcement, ballistic, **energy**

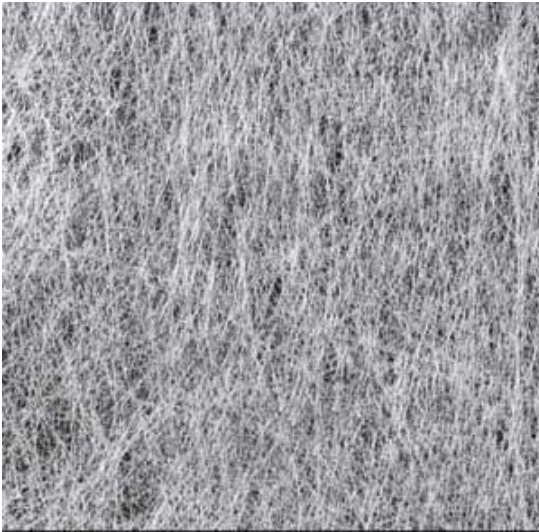


Flexible photovoltaic cells, integration to textile structures

Research topics

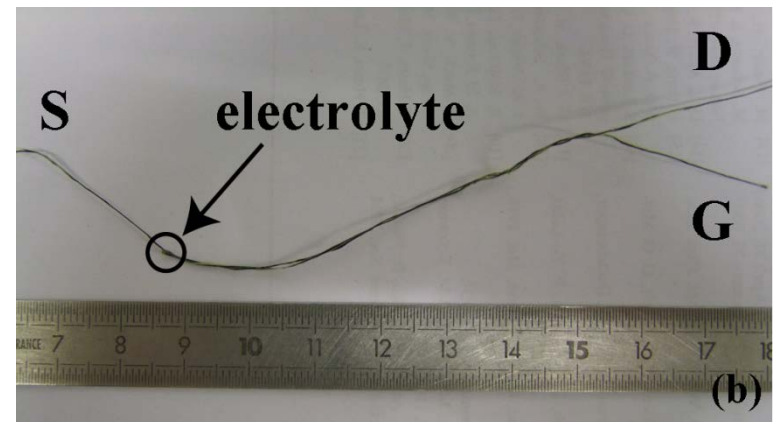
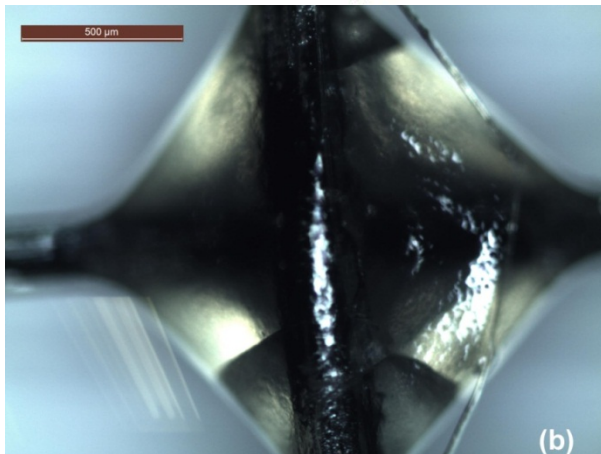
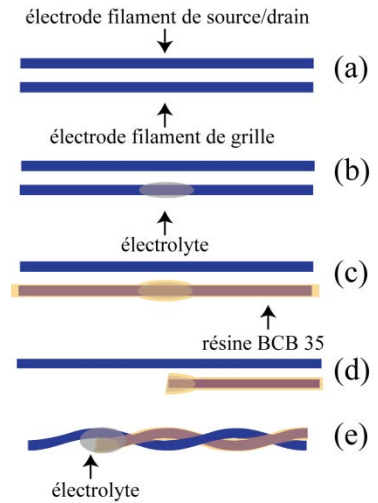
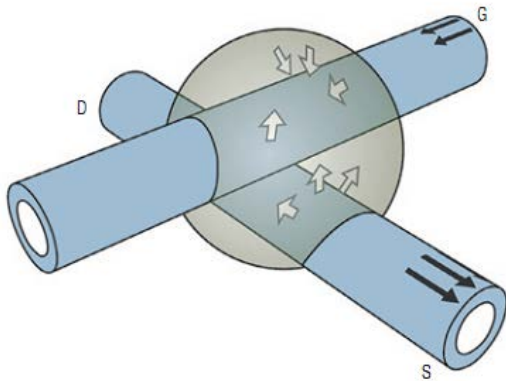
- Non woven structures, filtration, insulation, clothing for special purposes...

CENT



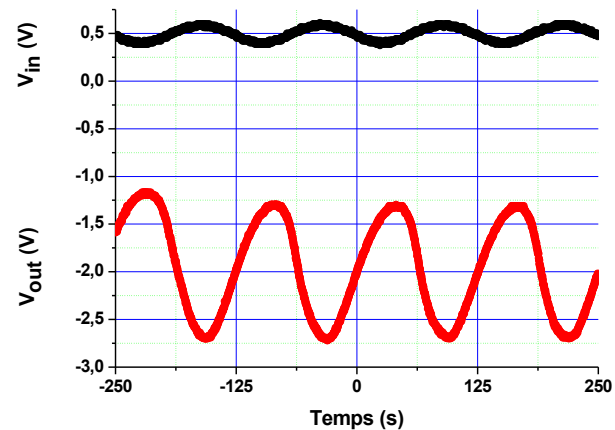
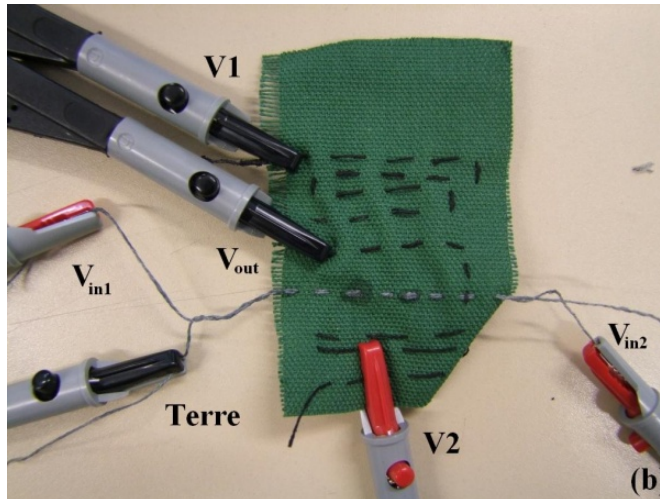
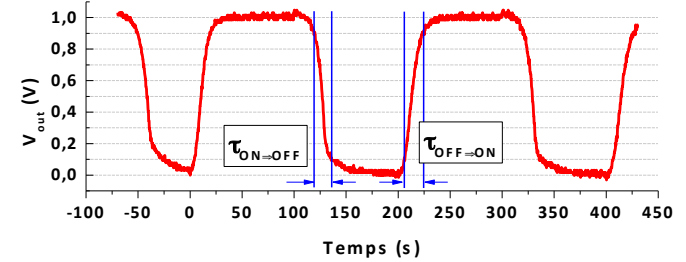
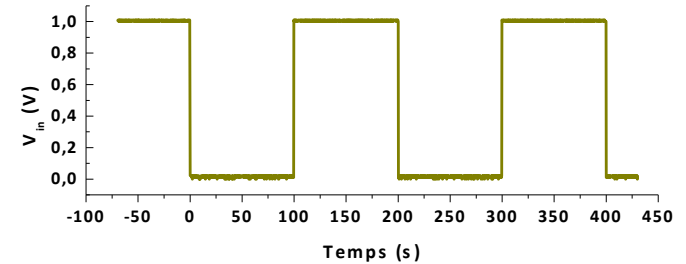
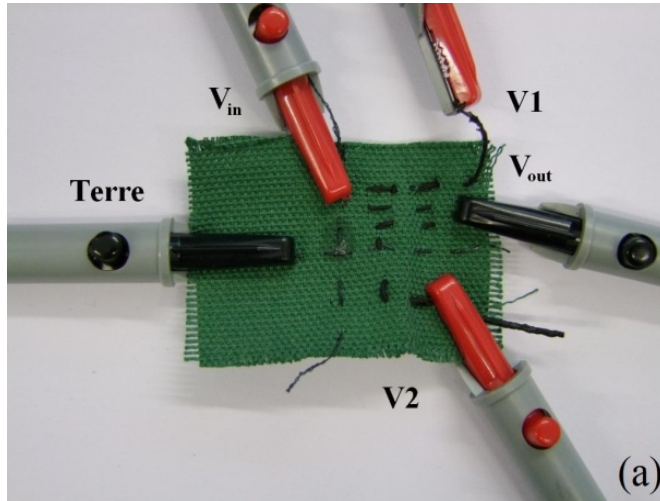
Research topics

Textile transistors – textile electronics

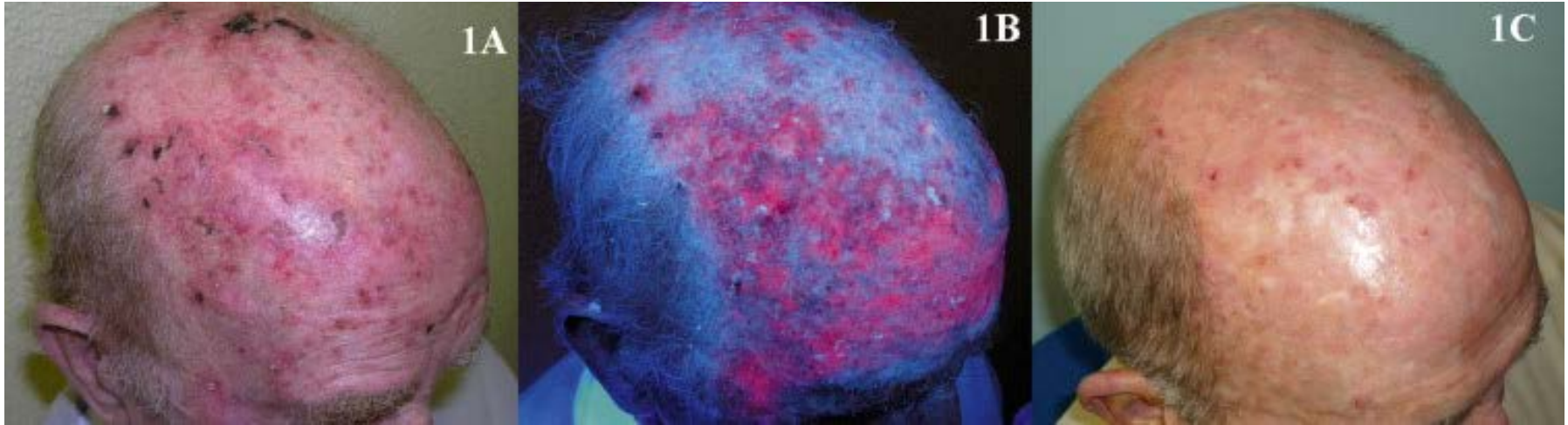


Research topics

Textile transistors – textile electronics



Research topics



PDT
Light Emitting
Textiles